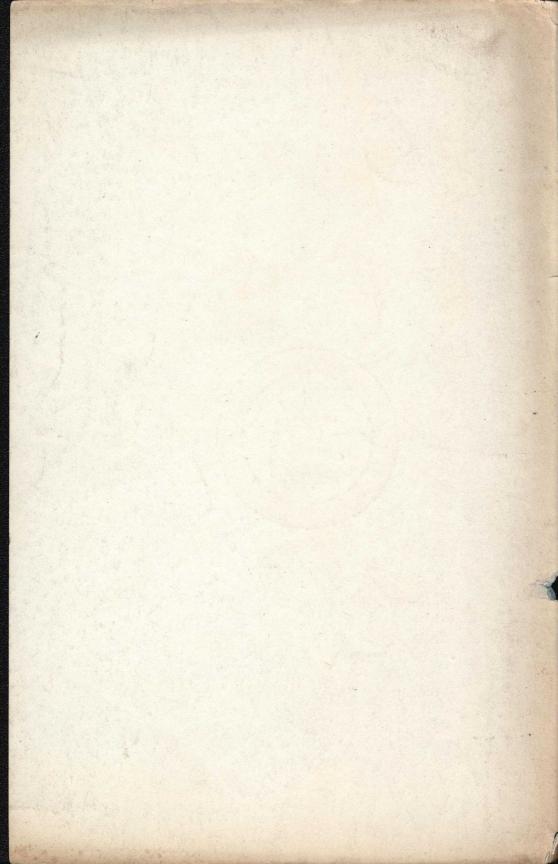


Welding, Cutting, Carbon and Lead Burning Equipment Acetylene Generators

OXY-ACETYLENE OXY-HYDROGEN



CATALOGUE No. 165



Catalog No. 165

Issued March, 1922

# IMPERIAL

Welding, Cutting, Carbon Burning, Lead Burning Equipment and Automatic Acetylene Generators

Oxy-Acetylene and Oxy-Hydrogen Process



APR 21 1922 © L. CO.

OUTFITS: GENERATORS TORCHES: REGULATORS ACCESSORIES: SUPPLIES

The Imperial Brass Manufacturing Co.

1200 West Harrison Street Corner Racine Avenue

Chicago, Illinois, U.S.A.

Telephone Haymarket 0740 Cable Address "IMPERBRASS"

New York Office: Los Angeles: San Francisco: Longacre Bldg. Citizens National Bank Bldg. Monadnock Bldg.

Copyright 1922, by The Imperial Brass Mfg, Co., Chicago.

Printed in U.S.A.



Main Offices and Works of The Imperial Brass Mfg. Co., Chicago, Ill.

Back of Imperial Equipment are over 40 years of experience in the manufacture of brass, bronze and aluminum devices of all kinds—a modern, fully equipped plant, skilled workmen and ample capital.

Years of practical welding and cutting experience on the part of our Oxy-Acetylene Engineers are ample assurance of the entire practicability of all Imperial operating features.

#### Guarantee

Imperial Equipment is guaranteed to give entire satisfaction if operated according to the printed instructions of The Imperial Brass Mfg. Co. sent with each outfit, otherwise the purchaser is given the privilege of returning all or any part within 30 days after delivery and full purchase price will be refunded.

# Welding and Cutting

#### OXY-ACETYLENE PROCESS

A UTOGENOUS Welding has during the last few years done more to revolutionize old practice in many branches of the metal industries than any other new process. Its introduction has made possible many forms of construction and manufacturing operations which had previously been considered impossible or impracticable, and in repair work alone it has already saved manufacturers and users enormous sums.

The process of Autogenous Welding with Imperial Equipment consists of fusing together or uniting new metals or broken edges of castings, machinery parts, pipes, plates, etc., using a "filler" or welding rod of the same or similar metal to that being welded, to mend or weld the break without hammering or compression.

Due to the extreme heat (about 6300° F.) developed by Imperial Apparatus—this fusion is confined to the metal directly under the flame.

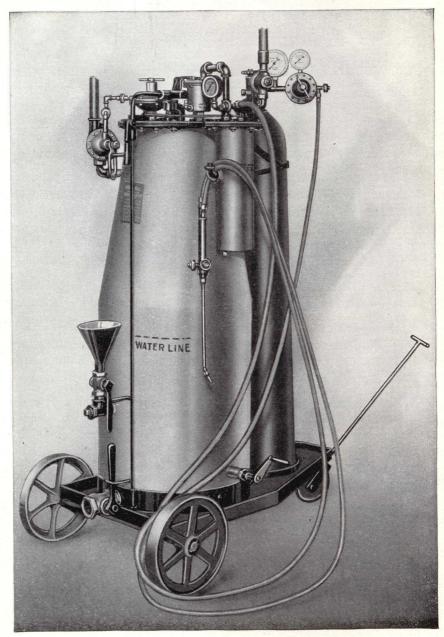
Broken parts of cast or wrought iron, steel, brass, bronze or aluminum metal are welded perfectly and made as strong as new at the least possible expense, and with great saving of time. For manufacturing purposes also this process is proving of great value.

With Imperial Apparatus the process is simple and a few days practice will enable any mechanic to produce strong welds of ordinary pieces, and experience, combined with attention to the rules and directions sent with each outfit, will in a short time enable the operator to produce welds of maximum strength and good finish in all metals, quickly and economically.

Cutting of wrought iron and steel with Imperial Equipment is a rapid and economical operation. Cast iron cutting can also be done with Imperial Torches.

By means of a powerful preheating flame from the torch tip, the metal is brought to incandescent heat almost instantaneously, following which a central cutting jet of pure oxygen is forced into the metal under pressure, thus oxidizing or consuming a narrow strip or cut of the metal, not more than 1/32" to 1/16" in width, without disintegrating the metal adjacent to the path of the cut.

# Imperial Oxy-Acetylene Equipment



25 lb. Imperial Acetylene Generator with No. 1 Welding Outfit and 200 cubic foot Oxygen Cylinder, Mounted on Truck.

# Imperial Welding and Cutting Equipment

MPERIAL Welding and Cutting Equipment has established a new high standard of efficiency in all classes of work within the range of the Oxy-Acetylene or Oxy-Hydrogen Process. It combines in the highest attainable degree:

SAFETY EFFICIENCY DURABILITY

All Imperial Welding and Cutting Torches are approved by the Underwriters' Laboratories of the National Board of Fire Underwriters.

Three vital points necessary to safe, efficient, economical and con-

tinuous operation of welding or cutting equipment are:

(1) Thorough and uniform mixing of the two gases employed to

produce a positively neutral flame. (See page 9.)

(2) Close and accurate regulation of both volume and velocity of the gases delivered to the torch and at the same time the maintaining of a constant, fixed pressure of gas under continuous and varied operating conditions.

(3) Absolute control over a wide range of gas pressures called

for by the various requirements of service.

All of these points are fully covered in Imperial Equipment by scientifically and mechanically correct designs, specially selected materials and extremely accurate, expert workmanship in the manufacture

of the various parts.

The great importance of these three points will be fully appreciated when it is realized that the safety and efficiency of operation and the durability of the equipment are directly dependent upon them, as on their successful solution depends not only the elimination of back-firing, but also the quality and speed of work done and economy of gas consumption.

#### WORKING PRESSURES:

Imperial Welding and Cutting Equipment is of the medium gas pressure type and is designed for operation with oxygen compressed in cylinders, and acetylene supplied from the Imperial Automatic Acetylene Generator or other medium pressure generator or with acetylene compressed in cylinders. So-called low pressure acetylene generators (1/2 lb. pressure) cannot be used with Imperial Equipment unless special apparatus is used to increase the pressure.

#### FOR ALL METAL INDUSTRIES:

The possibilities of the process are becoming better known every day—with the result that Imperial Welding and Cutting Equipment is now an important and essential part of the tool equipment in all

machinery-using and metal working industries.

It is absolutely indispensable in machine shops, foundries, boiler shops, ship yards, iron works and wherever machinery or iron, steel, brass, copper or aluminum are made or used. It welds anything in any metal—cuts any thickness of steel or wrought iron, also cast iron; saves tremendously in time, labor and materials.

# Imperial Oxy-Acetylene Equipment



No. 1 Imperial Welding Outfit Mounted on Imperial Truck.

(Tanks not included in Outfit.)

#### FOR GARAGES AND REPAIR SHOPS:

It meets ANY EMERGENCY, in the shop or on the road—for welding broken axles, cracked cylinders, transmission cases, etc., quickly, efficiently and at a good profit for the user.

Removes carbon from gas engine cylinders in a few minutes and more effectively than any other method.

It is safe, reliable and portable—can be taken anywhere—always ready to use.

#### FOR GAS AND OIL COMPANIES:

For making special pipe fittings, bailers, headers, etc., at enormous saving over cast fittings, quick repairs, etc.

#### FOR BOILER AND TANK WORKS AND SHIP YARDS:

Imperial Equipment in a boiler shop made a cut 19 feet 6 inches long through 3%-inch boiler plate in 20 minutes that would have taken TWO DAYS BY HAND. It is just the thing for cutting manholes, handholes, defective plates, rivet heads, and welding flues, cracked plates, patches, etc.

#### FOR FACTORIES, MILLS, MINES:

When the breakdown comes, what are you going to do? Wait weeks or months, perhaps, before you can get a new part or casting from the maker?

Imperial Equipment avoids interruption of your production—in an hour or two you can weld the broken part with it and have the machine in operation again at a very small cost for time and materials, often saving the entire cost of Imperial Equipment in one day.

#### FOR STEAM AND ELECTRIC ROADS:

No road should be without Imperial Equipment. It is a wonderful time and money saver—practically a whole repair shop in itself.

In yard, on track or in shop, it does its work when and where you want, quickly, safely and economically.

#### FOR STRUCTURAL STEEL WORK, ETC.:

Minutes mean money on big construction jobs where payroll expense is heavy.

Imperial Equipment will eliminate costly delays when beams do not fit, when field rivet holes are missing or incorrectly spaced, and other things go wrong.

You can take it readily to any part of the work and correct misfits, cut off lengths, cut rivet holes, miter or bevel any section, weld any metal, repair broken equipment—all quickly, safely and economically.

Let our engineers suggest the type of Imperial Equipment best suited for your individual requirements.

# Non-Back-Firing Feature of Imperial Torches

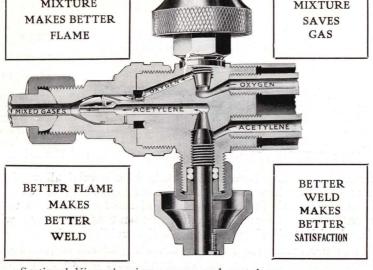


Non-back-firing test.



Difficult cutting through scale with Imperial Torch without back-firing.

# Imperial Mixing Principle Patented. BETTER MIXTURE AKES BETTER FLAME BETTER MIXTURE SAVES GAS GAS



Sectional View showing oxygen and acetylene gas passages and control valves of Imperial Welding and Cutting Torches.

The superiority of Imperial Equipment, aside from the highest quality of workmanship and materials, is largely due to a new, exclusive principle, fully protected by patents issued and pending, by which the oxygen is mixed with the acetylene or hydrogen to a degree of uniformity not accomplished by any other method, thus obtaining a positively neutral flame, without which successful welding is impossible.

The mixing of the gases in Imperial Torches is accomplished with absolute certainty by a mechanical method of forcing the oxygen through spiral grooves which impart to it a whirling motion and thus uniformly unite it with the acetylene or hydrogen which enters into the center of the whirl in a direct jet. The mixing device is just in front of the gas valves, relatively distant from the head of the torch, so that refractory heat from the work cannot obstruct the mixing process by expansion or contraction, thereby removing the cause of back-fire.

In all Imperial Torches, the mixing chamber cannot be destroyed by heat, a source of frequent trouble and considerable expense in other makes of torches which have the mixing chamber in the head of torch, close to the flame.

A saving of oxygen, increased intensity of neutral welding flame and greater efficiency in cutting is thus obtained.

# Type B Imperial Welding Torch

#### Oxy-Acetylene or Oxy-Hydrogen Process

Patented.



Type B Welding Torch-With 10 Copper Tips and Extension.

Imperial Welding Torches are made of a special alloy of bronze, simple and rugged in construction without possibility of leaky joints. Needle valves permit fine adjustment and are located so as to enable the operator to make any desired adjustment of the flame with his torch hand without having to lay aside the welding rod.

Due to perfect mixture and accurate regulation of gases obtained with Imperial Equipment and extremely accurate workmanship put upon all parts, the welding flame is a long, white, incandescent neutral cone free from carbons and oxides.

This is accomplished in Imperial Torches by a new mixing principle (described on page 9), fully protected by numerous patents pending, which results in a more uniform mixture, higher efficiency flame and greater safety, speed and economy of operation than is possible by any other method.

Back-firing is practically unknown in Imperial Torches and in the event of a tip becoming clogged by molten metal, the construction of the torch is such that there is no possibility of injury to it.

Only one Type B Torch is necessary regardless of size of work, and due to the large number of tips, with small difference between size of each tip opening, an exactly correct size of flame is always available.

The Type B Torch proper is 201/2 inches long and can be lengthened or shortened according to requirements of work by putting on or taking off sections of the tubing.

Imperial Welding Tips are made of hard, cold drawn pure copper having an extremely high melting point, making it peculiarly adapted for the purpose and insuring long life. See full description of tips on pages 22 and 23.

CUTTING ATTACHMENT—The Type B Welding Torch can also be used for cutting up to 6 inches by means of the No. 1 Cutting

Attachment shown on page 15.

# Type B Imperial Welding Torch The Only UNIVERSAL Torch Made Four Welding Torches in One

Approved by the Underwriters' Laboratories of the National Board of Fire Underwriters.

The pictures show the FOUR different forms into which the Imperial Type B torch as supplied with Outfits Nos. 1, 4 and 5 can be made quickly and easily by the operator.

Note that each form makes, not a make-shift, but an ideal torch for the purpose indicated.



Fig. 1—Standard Type B Torch for general work.



Fig. 3—This form for sheet metal and other light welding. (Extension omitted.)



Fig. 6—This form for left-handed operator or for welding vertical seams, etc.

(Direction of tip reversed by means of swivel joint in front of torch handle.)



Fig. 7—This form for heavy welding on preheated work. (Two extensions used. More extensions may be used if desired.)

# Type BB Imperial Welding Torch

Oxy-Acetylene or Oxy-Hydrogen Process

Patented.



Type BB Welding Torch-with 6 Copper Alloy Tips.

The Type B-B Torch is regularly furnished with the No. 2 Welding Outfit and is made of the same high grade materials and with the same mechanical precision as the Type B Torch described on the preceding page but is considerably smaller, the length being 16% inches and lighter in weight. The mixing principle of this Torch is the same as in all Imperial Welding and Cutting Torches. See description on page 9.

It is designed for all classes of light welding work, being particularly adapted to manufacturing service, for sheet metal welding and for oil and gas pipe lines and similar work that calls for continuous operation.

The light weight and perfect balance of this Torch contribute to the comfort of the operator and assist in greater production.

The Type B-B Torch can be used for all classes of welding within the limits of the Nos. 1 to 6 Tips.

The No. 2 Imperial Cutting Attachment, shown on page 15, is used with this Torch.

An extension is not regularly furnished with the Type B-B Torch but can be supplied on request.

We can also furnish special shapes and lengths of extensions and tips for welding radiators and similar work.

# Type A Imperial Welding Torch

Heavy Duty

Patented.



Type A Heavy Duty Welding Torch with Copper Tips Nos. 8, 9, 10, 12 and 15 and 3 Six-inch Extensions.

The Type "A" Heavy Duty Welding Torch was designed for extra heavy welding where a tremendous amount of heat is encountered. The Torch is extra large and the mixing chamber has large gas passages so that a big volume of gas can pass through. Length of torch proper is  $23\frac{1}{4}$  inches. The mixing principle of this Torch is the same as in all Imperial Welding and Cutting Torches. See description on page 9.

Only a first class Welder should use this Torch as all of the five Tips produce a large neutral flame, making it necessary for the operator to use speed to keep up with the Torch.

It is the last word in Oxy-Acetylene Welding as it will do the largest job of welding within the limits of the process.

The three extensions furnished, help to make this possible as many big preheated welding jobs can not be done with the ordinary standard length Torches.

It is practically impossible to make the Type "A" Torch backfire. We recommend it for Welding Shops doing big work, Mine Repair Shops, Railroad Shops, Foundries, etc.

# Type D Imperial Combination Welding and Cutting Torch

Oxy-Acetylene or Oxy-Hydrogen Process

Patented.



Type D Combination Torch with No. 1 Cutting Attachment in Position.

Approved by the Underwriters' Laboratories of the National Board of Fire

Underwriters.

The Type D Combination Torch is regularly supplied with the No. 4 Outfit, but can be purchased separately if desired.

It can readily be changed from a welding to a cutting torch and is designed for use where most of the work is welding and only occasional cutting is required, making it an ideal torch for garages and general repair shops.

It consists of a standard Type B Welding Torch with 10 copper tips and extension and a Cutting Attachment with 3 cutting tips and housings and one roller guide, all as shown in illustration above.

# No. 1 Imperial Cutting Attachment For Types B and D Torches



No. 1 Cutting Attachment with 3 Tips, Housings and Roller Guide. Will cut wrought iron and steel up to 6 inches thick.

The No. 1 Imperial Cutting Attachment can be quickly and easily attached to the Imperial Type B Welding or D Combination Torches by simply removing the welding head and screwing the cutting attachment in place.

This attachment is a regular part of the Type D Torch furnished with the No. 4 Combination Welding and Cutting Outfits, but may be purchased separately if desired, for attachment to the Type B Welding Torch.

# No. 2 Imperial Cutting Attachment For Type BB Torch



The No. 2 Imperial Cutting Attachment is furnished with the No. 2 Welding Outfit when ordered, and can be used only on the Type BB Welding Torch. One cutting tip with housing is supplied with it for cutting steel and wought iron up to 2½ inches thick.

# Type EE Imperial Cutting Torch

Oxy-Acetylene or Oxy-Hydrogen Process

Patented.



Type EE Cutting Torch with 4 Tips with Housings and Roller Guide.

Approved by the Underwriters' Laboratories of the National

Board of Fire Underwriters.

The Type EE Imperial Cutting Torch as regularly furnished with Nos. 3 and 5 Outfits, surpasses all others in durability, capacity for heavy, continuous service, entire safety, narrowness of cut, speed of cutting and a minimum consumption of gases.

The small openings in the cutting tip, arranged in a complete circle, provide the pre-heating flame which entirely surrounds the oxygen cutting jet and enables the operator to cut in any direction and to change direction of cut at will without altering position of either torch or work.

The needle valves controlling the preheating flame may be readily adjusted while working.

The strip of metal to be cut is heated to incandescence almost instantaneously when the powerful preheating flame is applied to it. The set screw of the needle valve on the lever is then opened gradually until a sufficient volume of oxygen is projected through the center hole of the tip to effect the desired cut rapidly and evenly. By means of this regulating thumb screw the flow of oxygen may be controlled with the utmost precision, thus making a large saving of oxygen.

When it is desired to stop operation, a light pressure on the lever will close off the cutting jet of oxygen.

Correct proportions are maintained between size of preheating flame and oxygen jet for all thicknesses of metal. This results in the narrowest possible cut and accounts for the minimum consumption of gas as well as the smooth, sugare edges of the cuts and great speed of cutting.

Our design overcomes refractory heat and prevents burning out of tips, as the velocity of the gas passing through the connecting conduits has a tendency to cool the tips.

# Imperial Cutting Torches

#### Oxy-Acetylene or Oxy-Hydrogen

Patented

Approved by the Underwriters' Laboratories of the National Board of Fire Underwriters.



Type EE Cutting Torch with Standard 67½ Degree Cutting Head, as Furnished with Outfits Nos. 3 and 5.

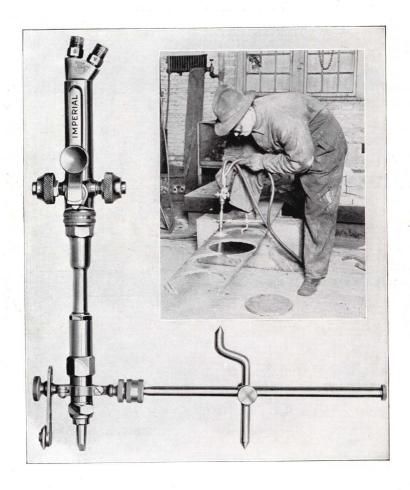


Type EE Cutting Torch with Special 90 Degree Cutting Head. This Style of Head May Be Purchased Separately and Will Fit on Any
Type E or EE Imperial Cutting Torch.



Type EE Cutting Torch with Special Straight Cutting Head and Special Flue-Cutting Tip Designed for Cutting Flues from Boilers. This Style of Head, Complete with Tip May Be Purchased Separately and Will Fit on Any Type E or EE Imperial Cutting Torch.

# Type EM Imperial Machine Cutting Torch Oxy-Acetylene or Oxy-Hydrogen



This is a very satisfactory, rapid and economical equipment for cutting circular discs from steel or wrought iron sheet metal—it consists of the Imperial Type EM Machine Cutting Torch and the Imperial No. 27-H Circle Cutter Attachment described on page 74.

# Cast Iron Cutting

With Imperial Oxy-Acetylene Equipment

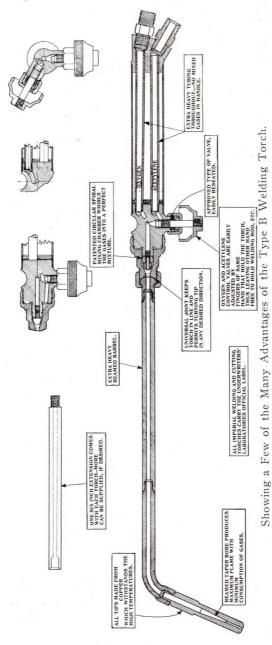


Cutting Cast Iron Side Walk with Imperial Torch.

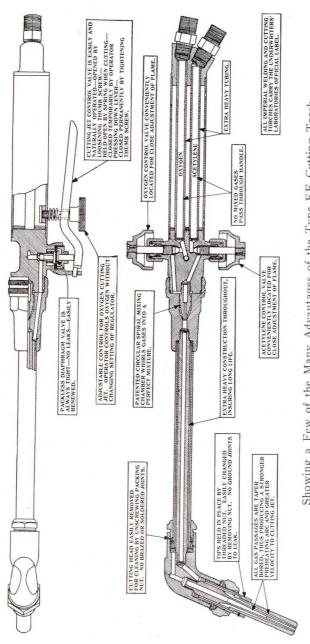
Cast Iron Cutting can be done with an Imperial Cutting Torch with our regular cutting tips, but best results are obtained by using Imperial Oxy-Hydrogen style cutting tips, which have larger preheating holes than the Oxy-Acetylene tips. Oxygen and Acetylene should be used. Hydrogen or any other gas besides acetylene does not give results.

Heat and plenty of it is the main requisite for successful Cast Iron Cutting. The cut will be wider than a steel cut, but if properly done, will be quite smooth and even.

# Imperial Welding Torches

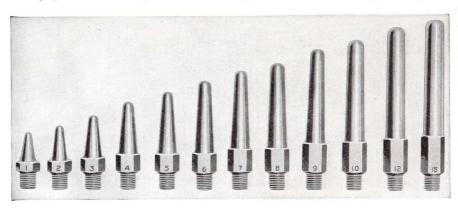


# Imperial Cutting Torches



Showing a Few of the Many Advantages of the Type EE Cutting Torch.

# Type C Imperial Copper Welding Tips



Imperial Type C Copper Welding Tips as shown above are made from pure, cold drawn, hard copper, and are unsurpassed for their ability to withstand high heat under the heaviest service conditions.

All Imperial Welding Tips are taper-bored, which results in a greater velocity of gases (and therefore reduces back fire) and makes a greater volume of flame than the same size of straight bore can produce.

Imperial Type C Copper Welding Tips Nos. 1 to 10 are now regularly furnished with all Type B and D Imperial Welding Torches, and Type C Tips Nos. 8 to 15, are now regularly furnished with all Type A Imperial Welding Torches.

These Type C Copper Tips are machined with ½" No. 20 U. S. S. Thread, and cannot be used with Type BB Imperial Welding Torches, but can be used with all Type B Torches by using a Type C Tip Holder or with Type A Torches by using a Type CA Tip Holder.

While the initial cost is slightly more than that of alloy tips, their extra long life and efficient performance make them by far the most economical in the end.

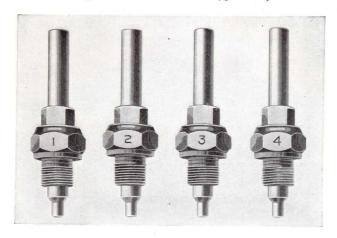
#### Oxy-Acetylene Welding Tips.

		1	1			1			1	
Thickness of Metal	1/32"	1/16"	3/32"	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1" and over
No. of Tip to Use	1	2	3	4	5	6	7	8	9	10-12-15

#### Oxy-Hydrogen Welding Tips.

Thickness of Metal	$\frac{1}{64}$ " to $\frac{1}{32}$ "	½2" to ½6"	½6" to ½"	½" to ½"	½" & over
No. of Tip to Use	1H	2H	3H	4H	5H

# Imperial Cutting Tips



(Tips are stamped 1N, 2N, 3N and 4N.)

Imperial Cutting Tips are furnished each complete with housing, as shown above, are made of special copper alloy, and, due to correct design and careful workmanship, cut clean and narrow and at the same time operate with greatest safety, speed and economy.

The small openings, arranged in a complete circle, provide the preheating flame which entirely surrounds the oxygen cutting jet and enables the operator to cut in any direction and to change direction of cut at will without altering position of either torch or work.

#### Oxy-Acetylene Cutting Tips.

Thickness of Metal	½" to 2"	2" to 4"	4" to 6"	6" to 12"
No. of Tip to Use	1N	2N	· 3N	4N

#### Oxy-Hydrogen Cutting Tips.

Thickness of Metal	½" to 2"	2" to 4"	4" to 6"	6" to 12"
No. of Tip to Use	1HN	2HN	3HN	4HN

#### SPECIAL IMPERIAL CUTTING TIPS

Special Imperial Cutting Tips for Carbo-Hydrogen, Butane or any other Hydro Carbon Gases can be furnished if specified.

# Imperial Straight Cutting Tips



For use with all Imperial Cutting Torches for making straight, accurate cuts with a guide. Each tip is furnished complete with special housing. The cutting end is shaped so that it can rest upon the surface of the metal to be cut and thus facilitates cutting with extreme accuracy.

Straight Cutting Tip, Oxy-Acetylene, No. 1.
Straight Cutting Tip, Oxy-Acetylene, No. 2.
Straight Cutting Tip, Oxy-Hydrogen, No. 1-H.
Straight Cutting Tip, Oxy-Hydrogen, No. 2-H.

# Imperial Rivet Cutting Tips



For use with all Imperial Cutting Torches for cutting off heads of rivets without injuring the adjacent metal. Each tip furnished complete with special housing.

Rivet Cutting Tip, Oxy-Acetylene, No. 1.

Rivet Cutting Tip, Oxy-Acetylene, No. 2.

Rivet Cutting Tip, Oxy-Hydrogen, No. 1-H.

Rivet Cutting Tip. Oxy-Hydrogen, No. 2-H.

# No. 120-H Imperial Tips and Spare Parts Assortment for Jobbers



This assortment provides a convenient receptacle for a small stock of Imperial Welding, Cutting and Lead Burning Tips, Tip Holders and Extensions for the Type B Welding Torch, Regulator Screws and Seats, Tank Valve Adapters, Hose Connections and Torch Adaptors.

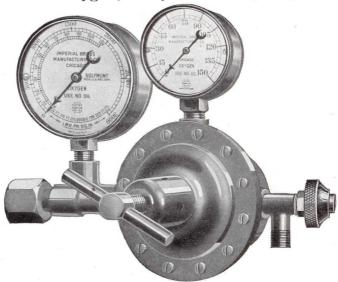
Only such items as are frequently called for are included and the illustrated label makes it easy for the order clerk to select the correct part quickly—

Full details and price furnished on request.

# Imperial Regulators

Patented.

For Oxygen, Acetylene and Hydrogen



Type K Oxygen Regulator.

In designing Imperial Regulators our sole aim has been to produce accuracy of control, simplicity and ruggedness of parts and continuous, safe operation, and to this end we have incorporated automatic safety features possessed by no other regulators.

Imperial Regulators deliver an absolutely constant, predetermined volume and velocity of gas to the torch and the movement of the valve with relation to the valve seat is limited in such a way as to prevent cutting of seat, thus insuring durability.

Variation of pressure would cause fluctuation of welding flame and

prevent successful welding.

Imperial Acetylene Regulators have German silver diaphragms, and Oxygen Regulators have phosphor bronze to withstand the chemical

action of the respective gases.

Imperial Oxygen Regulators are threaded to fit all standard oxygen tanks and Imperial Acetylene Regulators are threaded to fit any of the various standard acetylene tanks by means of adaptor fittings supplied with each outfit.

Imperial Regulators can also be used to control gas pressures for

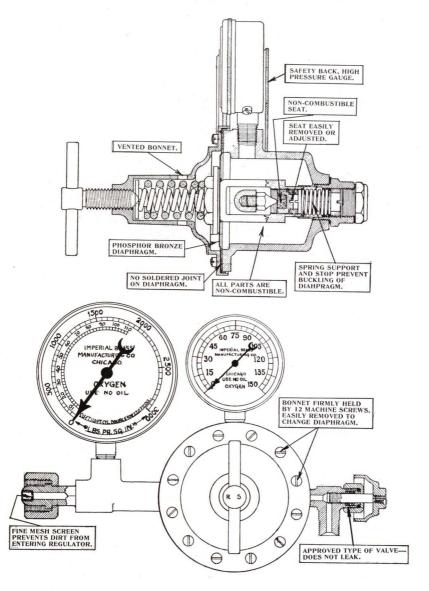
lighting systems, etc.

Note—In order to illustrate the internal construction of the Regulator clearly, some of the parts are shown turned at right angle to their normal positions.

See description and listing on the following pages.

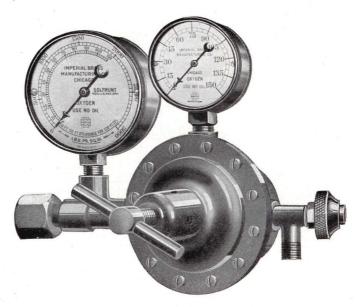
# Imperial Welding and Cutting Regulators

For Oxygen, Acetylene and Hydrogen



See following pages for description and listing.

# Imperial Oxygen Regulators



Type K Oxygen Regulator, with Gauges.

The Type "K" Regulator has ample capacity for the largest welding and cutting work.



Type D Oxygen Regulator, with Gauge.

It is regularly furnished with Imperial Oxy-Acetylene Outfits Nos. 1, 3, 4 and 5 and Oxy-Hydrogen Outfits Nos. 1-H, 3-H, 4-H and 5-H. It is fitted with a 150-lb. working pressure gauge and a 3,000-lb. cylinder pressure gauge with double scale dial showing both pressure and volume of gas in cylinder.

The Type "D" Regulator is used for light welding, carbon burning and lead burning and is fitted with a 50-lb. working pressure gauge. It is regularly furnished with the Imperial No. 2 Welding Outfit, No. 6 Carbon Burning Outfit and Nos. 20, 20-DD, 21 and 28 Lead Burning Outfits.

### Imperial Acetylene Regulators

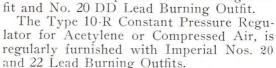


Type AA Acetylene Regulator with Gauges

The Type "AA" Regulator has ample capacity for the largest welding and cutting work.

It is fitted with a 50-lb. working pressure gauge and a 500-lb. cylinder pressure gauge. Regularly furnished with Imperial Outfits Nos. 1, 3, 4 and 5.

The Type "DD" Regulator is used for light welding and lead burning and is fitted with a 50-lb. working pressure gauge. It is regularly furnished with Imperial No. 2 Welding Out-





Type DD Acetylene Regulator with Gauge



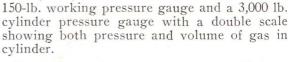
Type 10-R Constant Pressure Regulator.

### Imperial Hydrogen Regulators

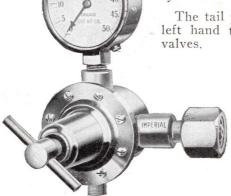


Type KH Hydrogen Regulator, with Gauges.

The Type "KH" Regulator has ample capacity for the heaviest cutting work and can also be used for Welding. It is regularly furnished with Imperial Outfits Nos. 1-H, 3-H, 4-H and 5-H. It is fitted with a



The tail piece of this Regulator is threaded left hand to fit standard hydrogen cylinder valves



Type DH Hydrogen Regulator, with Gauge.

The Type "DH" Regulator is used for lead-burning and is fitted with a 50-lb. working pressure gauge. It is regularly furnished with Imperial Nos. 21 and 22 Lead Burning Outfits. The tail piece of this Regulator is threaded left hand to fit standard hydrogen cylinder Valves.

### Imperial Pipe Line Regulators

Oxygen and Acetylene



Type DG Oxygen Pipe Line Regulator, with Gauge.

Type DDG Acetylene Pipe Line Regulator, with Gauge.

Imperial Pipe line regulators are fitted with special diaphragms and extra large jets, giving an extremely sensitive, large capacity, low pressure regulator. They are designed to reduce pressures ranging from 15 to 150 lbs. to pressures ranging from 0 to 15 or 50 lbs. These Regulators are not intended for use on tanks. They are used to reduce pressures carried on acetylene or oxygen pipe lines as show on page 52.

The Type "DG" Oxygen Regulator is fitted with a 50-lb. pressure. gauge and the Type "DDG" Regulator is fitted with a 30-lb. pressure gauge.

Fitted with standard  $\frac{1}{2}$ " male Iron Pipe thread on inlet as shown in illustrations.

The Type "DG" Regulator is also recommended for use on compressed air lines.

# Imperial Cylinder Adapters



No. 60-H Adapter.



No. 62-H Adapter.

No. 60-H Adapter for attaching any Imperial Acetylene Regulator to Prest-O-Lite cylinders. One of these adapters is included in all Imperial Welding and Cutting Outfits.

With the No. 60-H Adapter, it will be noted that the regulator must take a vertical position.

No. 62-H Adapter for attaching any Imperial Acetylene Regulator to Prest-O-Lite cylinders but it will be noted that the end to which the Regulator is attached has a right angle bend, so as to permit the Regulator to take a horizontal position, which facilitates reading the dials on gauges.



No. 61-H Adapter.

No. 61-H Adapter for attaching any Imperial Acetylene Regulator to Commercial, Air Reduction or Searchlight cylinders. One of these adapters is included in all Welding and Cutting Outfits.

### Imperial Regulator Protector

Patent Applied For.

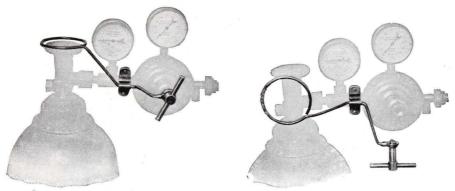


Figure 1.

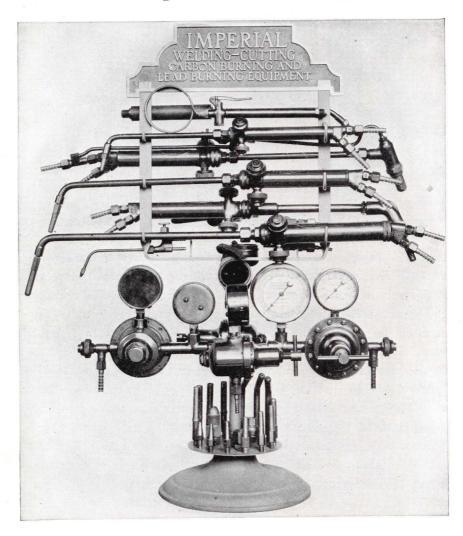
Figure 2.

This device automatically protects the Oxygen or Acetylene Regulator Diaphragm from the injurious strains caused by opening or closing the cylinder or tank valve when the regulating screw is in the tightened position. The correct method of operating an Oxygen or Acetylene Regulator is to make sure that the Regulating screw of Regulator is loose—(that is turned to the left to take all pressure off the springs) before opening or closing the tank valve—but operators frequently neglect to observe this rule, and as a result the Regulator diaphragm becomes injured or strained, and in this way the perfect control of the gases is interfered with and the life of the Regulator is shortened. The Imperial Regulator Protector as shown by cuts is an attachment which is clamped to the regulator and makes it impossible to open the cylinder or tank valve until the regulating screw is first loosened. Figure 1shows the cylinder or tank valve covered up so that the valve cannot be opened. By loosening the Regulating Screw, and swinging the Protector as in Figure 2—the Tank Valve can then be opened or closed. After opening Tank Valve the required working pressure is obtained by swinging the Regulating Screw to position shown in Figure 1 and tightening it up in the usual manner.

Note: When ordering always give name of maker and type of regulator on which the Protector is to be used, also make of cylinder valve if possible.

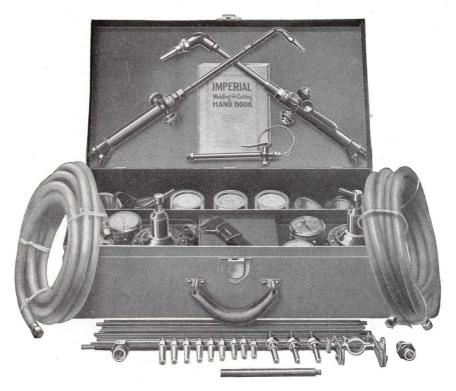
# Imperial Jobbers' Display Fixture

Revolving-For Counter or Window



This is a handsomely finished revolving fixture for displaying Imperial Welding and Cutting Torches, Oxygen and Acetylene Regulators, Tips and Adapters. The fixture is loaned to Jobbers on condition of an order being placed for the equipment displayed upon. Full particulars on request.

### Imperial Oxy-Acetylene Equipment

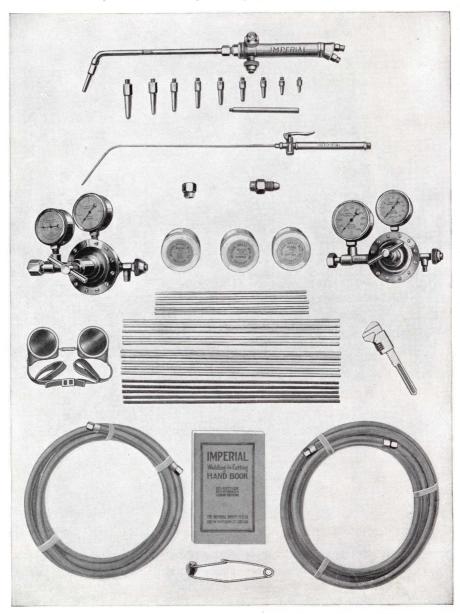


Imperial No. 5 Duplex Welding and Cutting Outfit in Carrying Case.

All Imperial Welding and Cutting Outfits (with the exception of the No. 2 Garage Outfit, which is packed in a carton) are packed in a neat, substantial carrying case as shown above, with convenient compartments for the various items. It is light in weight, made of pressed steel, and is 23½ inches long, 125% inches wide and 7½ inches deep.

See following pages for listing of Imperial Welding and Cutting Outfits.

# No. 1 Imperial Welding Outfit



See opposite page for description and listing.

# No. 1 Imperial Welding Outfit

Oxy-Acetylene

The No. 1 Imperial Welding Outfit illustrated on the preceding page is intended for continuous service on all kinds of heavy or light welding and is fully adequate to handle all work within the limits of the process.

Type G Carbon Burning Torch, by which carbon is quickly and effectively removed from gas engine cylinders, is regularly included with this outfit.

For detailed description of equipment, see preceding pages.

#### No. 1 WELDING OUTFIT

#### Consists of:

- 1—Type B Imperial Welding Torch with ten copper tips for any thickness of material and extension for heavy welding.
- 1—Type K Imperial Oxygen Regulator with 3,000 lb. gauge showing cylinder pressure and contents, and 150 lb. gauge showing working pressure.
- \*1—Type AA Imperial Acetylene Regulator with 500 lb. pressure gauge showing cylinder pressure and 50 lb. gauge showing working pressure.

Cylinder or tank connections, outlet valves and union hose connections.

- 1—Length (12½ feet) Special High Pressure Oxygen Hose.
- 1-Length (121/2 feet) Special High Pressure Acetylene Hose.
- 1-Pair Welding Goggles.
- 1—Spark Lighter.
- 1-Type G Carbon Burning Torch.
- 1-Wrench.

Supply of cast iron, Norway iron, bronze and aluminum welding rods and fluxes for cast iron, brass and aluminum. Complete welding instructions.

Outfit packed in a very neat and substantial steel carrying case.

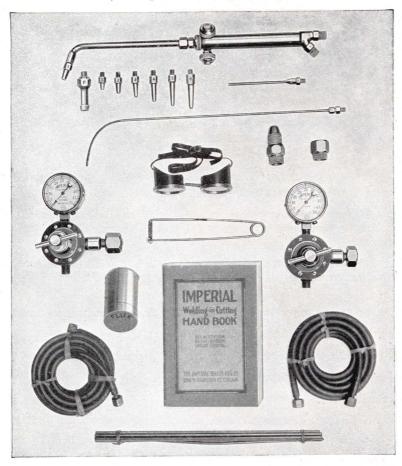
Approximate shipping weight of outfit is 65 lbs.

\*No Acetylene regulator is required when outfit is to be used with Imperial Acetylene Generator, making a saving in the cost.

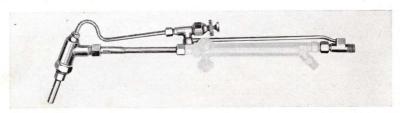
NOTE.—The Imperial Truck as listed on page 81 is a great convenience when outfit is to be frequently moved around shop or yards and eliminates danger of tank being knocked over and consequent breakage of apparatus.

37

# No. 2 Imperial Welding Outfit "All-Purpose"—Oxy-Acetylene



No. 2 Welding Outfit.



No. 2 Cutting Attachment. See opposite page for description and listing.

# No. 2 Imperial Welding Outfit

### "All-Purpose" Oxy-Acetylene

For the every-day requirements of the average garage or small repair shop. It does Welding, Carbon Burning, Lead Burning, Radiator Soldering, Brazing, Preheating, and at an extra charge a Cutting Attachment is furnished when so ordered. For detailed description of equipment, see preceding pages.

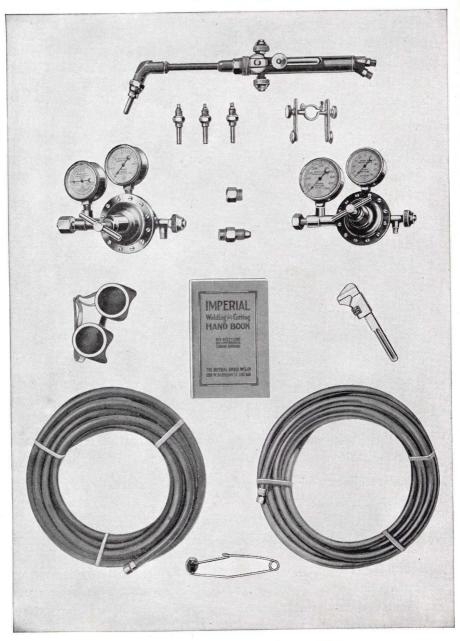
#### NO. 2 WELDING OUTFIT

#### Consists of:

- 1-Type BB Welding Torch, with 6 welding tips, Nos. 1, 2, 3, 4, 5 and 6.
- 1-Type H Carbon Removing Tip.
- 1-Type OO Lead Burning Tip.
- 1-Type G Radiator Soldering Tip.
- 1-Type F Brazing Tip.
- 1-Type D Oxygen Regulator, with 50-lb. working pressure gauge.
- \*1—Type DD Acetylene Regulator, with 50-lb. working pressure gauge.
- 1-No. 60-H Adapter for Prest-O-Lite Tank.
- 1-No. 61-H Adapter for Commercial and Air-Reduction Tanks.
- 1-10-foot Oxygen Hose, with Couplings.
- 1—10-foot Acetylene Hose, with Couplings.
- 1—Pair Welding Goggles, Supply of Cast Iron, and Norway Iron Welding Rod, Flux.
- 1—Spark Lighter and Welding Hand Book, weight 16 lbs., packed in carton.
- \*No acetylene regulator is required when outfit is to be used with Imperial Acetylene Generator, making a saving in the cost.

NOTE.—The Imperial Truck as listed on page 81 is a great convenience when outfit is to be frequently moved around shop or yards and eliminates danger of tank being knocked over and consequent breakage of apparatus.

# No. 3 Imperial Cutting Outfit Oxy-Acetylene



See opposite page for description and listing.

## No. 3 Imperial Cutting Outfit

#### Oxy-Acetylene

The No. 3 Imperial Cutting Outfit is designed for continuous service, wrecking contractors, boiler shops, structural steel work, etc., and cuts wrought iron and steel from ½ inch to 12 inches in thickness. For detailed description of equipment, see preceding pages.

(Can also be used for cutting cast iron. See page 19.)

#### No. 3 CUTTING OUTFIT

#### Consists of:

- 1—Type EE Imperial Cutting Torch with four tips and housings and roller guide.
- 1—Type K Imperial Oxygen Regulator with 3,000 lb. gauge showing cylinder pressure and contents, and 150 lb. gauge showing working pressure.
- \*1—Type AA Imperial Acetylene Regulator with 500 lb. pressure gauge showing cylinder pressure, and 50 lb. gauge showing working pressure.

Cylinder or tank connections, outlet valves and union hose connections.

- 1-Length (25 feet) Special High Pressure Oxygen Hose.
- 1-Length (25 feet) Special High Pressure Acetylene Hose.
- 1—Spark Lighter.
- 1-Wrench and one pair of Goggles.

Complete instructions.

Outfit packed in a very neat and substantial carrying case.

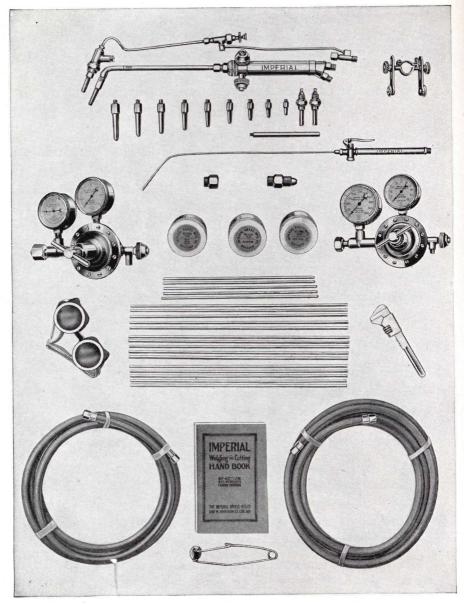
Approximate shipping weight of outfit is 65 lbs.

\*No acetylene regulator is required when outfit is to be used with Imperial Acetylene Generator, making a saving in the cost.

See page 24 for Special Rivet Cutting Tip, also Straight Cutting Tip which may be used with this outfit when desired.

NOTE.—The Imperial Truck, as listed on page 81, is a great convenience when outfit is to be frequently moved around shop or yards and eliminates danger of tanks being knocked over and consequent breakage of apparatus.

# No. 4 Imperial Combination Welding and Cutting Outfit Oxy-Acetylene



See opposite page for description and listing.

# No. 4 Imperial Combination Welding and Cutting Outfit

Oxy-Acetylene

The No. 4 Imperial Combination Welding and Cutting Outfit is adapted for use in garages, repair shops, etc., being especially designed for that class of work.

The Welding Torch supplied with this outfit has a cutting attachment which can quickly be connected to the torch, thus converting it into a cutting torch when desired, for cutting wrought iron and steel.

(Can also be used for cutting cast iron. See page 19.)

The outfit also includes a Carbon Burning Torch, by which carbon can be quickly and effectively removed from gas engine cylinders.

For detailed description of equipment, see preceding pages.

# No. 4 COMBINATION WELDING AND CUTTING OUTFIT Consists of:

- 1—Type B Welding Torch, with 10 copper welding tips, extension, cutting attachment, 3 cutting tips with housings and roller guide.
- 1—Type K Imperial Oxygen Regulator, with 3,000 lb. gauge showing cylinder pressure and contents, and 150 lb. gauge showing working pressure.
- \*1—Type AA Imperial Acetylene Regulator, with high pressure gauge showing tank pressure, and 50 lb. gauge showing working pressure. Cylinder or tank connections, outlet valves and union brass connections.
- 1-Length (12½ feet) Special High Pressure Oxygen Hose.
- 1—Length (12½ feet) Special High Pressure Acetylene Hose.
- 1-Wrench and one pair Goggles.
- 1—Spark Lighter.
- 1—Type G Carbon Burning Torch.

Supply of cast iron, Norway iron, bronze and aluminum welding rods, and fluxes for cast iron, brass and aluminum.

Complete instructions.

Outfit packed in a very neat and substantial carrying case.

Approximate shipping weight of outfit is 65 lbs.

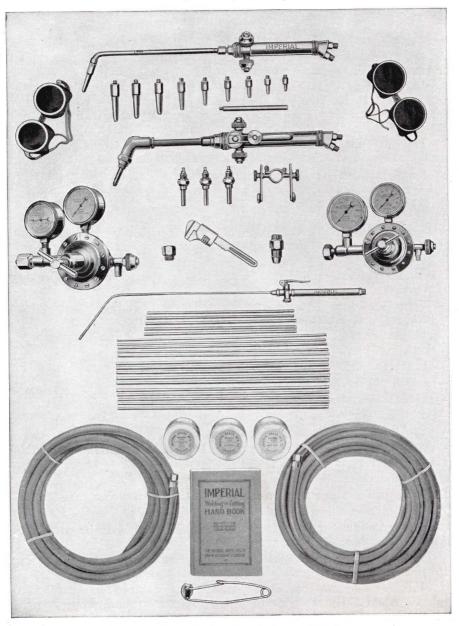
\*No acetylene regulator is required when outfit is to be used with Imperial Acetylene Generator, making a saving in cost.

See page 24 for Special Rivet Cutting Tip, also Straight Cutting Tip which may be used with this outfit when desired.

NOTE.—The Imperial Truck, as listed on page 81, is a great convenience when outfit is to be frequently moved around shop or yards and eliminates danger of tanks being knocked over and consequent breakage of apparatus.

43

# No. 5 Imperial Welding and Cutting Outfit Oxy-Acetylene



See opposite page for description and listing.

# No. 5 Imperial Welding and Cutting Outfit Oxy-Acetylene

The No. 5 Imperial Outfit is intended for continuous service and is adapted for all welding work within the limits of the process, and cuts wrought iron or steel from 1/8 inch to 12 inches in thickness. For detailed description of equipment see preceding pages. (Can also be used for cutting cast iron. See page 19.)

A Type G Carbon Burning Torch is regularly included with this outfit.

#### No. 5 OUTFIT

#### Consists of:

- 1—Type B Imperial Welding Torch with ten copper tips for any thickness of material and extension for heavy welding.
- 1—Type EE Imperial Cutting Torch with four tips and housings and roller guide.
- 1—Type K Imperial Oxygen Regulator with 3,000 lb. gauge showing cylinder pressure and contents, and 150 lb. gauge showing working pressure.
- \*1—Type AA Imperial Acetylene Regulator with 500 lb. pressure gauge showing cylinder pressure, and 50 lb. gauge showing working pressure.

Cylinder or tank connections, outlet valves and union hose connections.

- 1-Length (25 feet) Special High Pressure Oxygen Hose.
- 1-Length (25 feet) Special High Pressure Acetylene Hose.
- 1-Wrench and 2 pairs Goggles.
- 1-Spark Lighter.
- 1-Type G Carbon Burning Torch.

Supply of cast iron, Norway iron, bronze and aluminum welding rods, and fluxes for cast iron, brass and aluminum.

Complete welding and cutting instructions.

Outfit packed in a very neat and substantial carrying case.

Approximate shipping weight of outfit is 65 lbs.

\*No acetylene regulator is required when outfit is to be used with Imperial Acetylene Generator, making a saving in cost.

See page 24 for Special Rivet Cutting Tip, also Straight Cutting Tip which may be used with this outfit when desired.

NOTE.—The Imperial Truck, as listed on page 81, is a great convenience when outfit is to be frequently moved around shop or yards and eliminates danger of tanks being knocked over and consequent breakage of apparatus.

# Imperial Oxy-Hydrogen Equipment

#### For Welding and Cutting

An important feature of Imperial Welding and Cutting Equipment is its adaptability for use with Oxy-Hydrogen as well as Oxy-Acetylene.

When it is desired to use Hydrogen instead of Acetylene with Imperial Oxy-Acetylene Welding and Cutting Outfits the only change necessary is the addition of one Hydrogen Regulator and a set of Hydrogen tips.

Tips for welding as well as cutting with Hydrogen are furnished by us on request. Every tip is marked with the size number.

Where a supply of Hydrogen is available at reasonable prices, it may be used in connection with Oxygen for cutting of wrought iron and steel of any thickness.

The Oxy-Hydrogen flame can also be used for light welding in general repair work, such as small gears and castings, aluminum crank cases and other alloyed metals, and for welding thin sheet steel, from 16 gauge up.

Its temperature being about 4,000° F., the metal is not burned so easily, and as Hydrogen contains no carbon, the weld is softer and very uniform.

Cast iron may be welded with Oxy-Hydrogen up to ¾ inch in thickness.

For welding steel of more than ¼ inch in thickness, the Oxy-Acetylene flame should be used under all circumstances.

See listing on the following page.

## Imperial Oxy-Hydrogen Outfits

No. 1H—OXY-HYDROGEN WELDING OUTFIT

For welding of light steel and cast iron articles and aluminum castings or sheet aluminum.

Containing one Type KH Imperial Hydrogen Regulator with 3,000 lb. gauge showing cylinder pressure and contents, and low pressure gauge, showing working pressure. Also Oxy-Hydrogen tips and connections instead of Oxy-Acetylene parts. Otherwise the same as No. 1 Oxy-Acetylene Welding Outfit, described on page 37.

#### No. 3H—OXY-HYDROGEN CUTTING OUTFIT

Containing one Type KH Imperial Hydrogen Regulator with 3,000 lb. gauge, showing cylinder pressure and contents, and low pressure gauge, showing working pressure. Also Oxy-Hydrogen tips and connections instead of Oxy-Acetylene parts. Otherwise the same as No. 3 Oxy-Acetylene Cutting Outfit, described on page 41.

#### No. 4H—OXY-HYDROGEN WELDING AND CUTTING OUTFIT

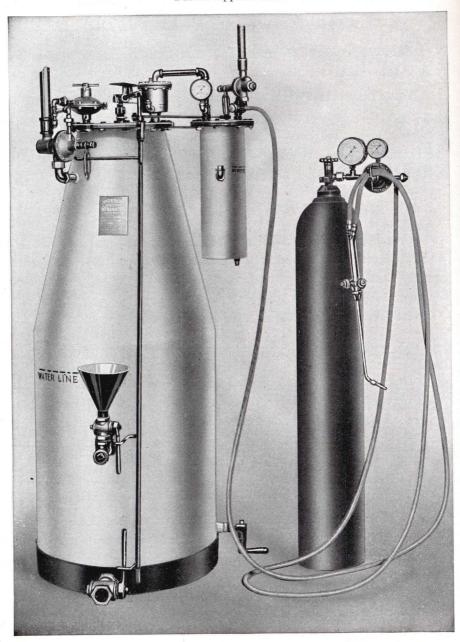
Containing one Type KH Imperial Hydrogen Regulator with 3,000 lb. gauge, showing cylinder pressure and contents, and low pressure gauge, showing working pressure. Also Oxy-Hydrogen welding and cutting tips and connections instead of Oxy-Acetylene parts. Otherwise the same as No. 4 Oxy-Acetylene Outfit, described on page 43.

#### No. 5H—OXY-HYDROGEN WELDING AND CUTTING OUTFIT

Containing one Type KH Imperial Hydrogen Regulator with 3,000 lb. gauge, showing cylinder pressure and contents, and low pressure gauge, showing working pressure. Also Oxy-Hydrogen welding and cutting tips and connections instead of Oxy-Acetylene parts. Otherwise the same as No. 5 Oxy-Acetylene Outfit, described on page 45.

NOTE.—When ordering, please state name of cylinder valve with which equipment is to be used.

# Imperial Automatic Acetylene Generators Patent Applied For.

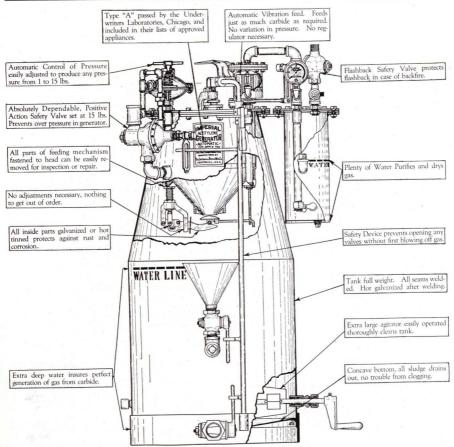


Type A, 50 lb. Imperial Generator Connected to No. 1 Welding Outfit and 200 Cubic Foot Oxygen Cylinder.

Patent Applied For.

## NOTICE!

The Type A Imperial Automatic Acetylene Generator in ALL SIZES is approved by the Underwriters' Laboratories of the National Board of Fire Underwriters.



A few of the many advantages of Imperial Acetylene Generators.

WATER LINE

25 lb. Imperial Generator on Truck, Connected to No. 1 Welding Outfit and 200 Cubic Foot Oxygen Cylinder.

Patent Applied For.

#### GENERAL DESCRIPTION

The Imperial Generator is of the medium pressure, carbide to water type, and produces pure acetylene gas for welding, cutting and lead burning by the Oxy-Acetylene Process.

It is made in 15, 25, 50 and 100 lb. sizes to meet every service requirement and can be used with any make of Oxy-Acetylene Welding, Cutting and Lead Burning Apparatus now on the market.

Sizes larger than 100 lb. can be made up promptly to order.

#### SAVES MONEY AND DELAYS—

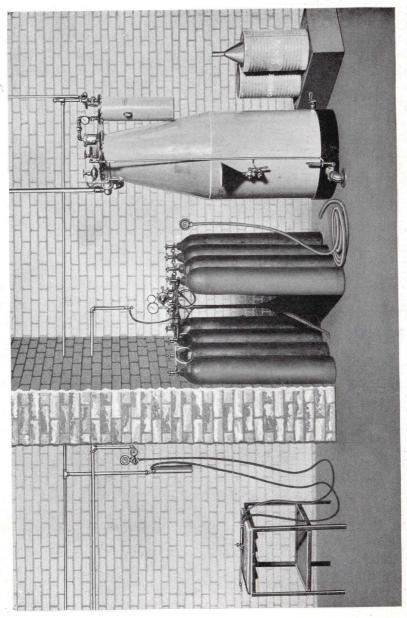
Aside from the important advantage of never running short of acetylene gas just when you have a rush job to do (as often happens when acetylene cylinders are used), the Imperial Acetylene Generator produces an absolutely pure acetylene gas that insures successful welding at a total cost of about one cent per cubic foot, A SAVING OF FROM TWO TO FIVE CENTS PER CUBIC FOOT OVER THE COST OF GAS COMPRESSED IN CYLINDERS!

Think of being absolutely freed of the delays, annoyance and high cost of acetylene cylinder service. You can figure the exact saving to you by adding to the cost of the gas, the freight and hauling charge of the cylinders.

The cash deposit required on all acetylene cylinders often equals or exceeds the entire cost of an Imperial Generator and the Generator becomes YOUR OWN PROPERTY to do with as you please.

A brief consideration of the above facts will convince you that you cannot afford to be without an Imperial Acetylene Generator. It will lower your welding and cutting costs, save annoying and expensive delays, and its ease of operation and absolutely even pressure and pure gas will be a source of constant satisfaction.

Patent Applied For.



Typical Pipe Line Installation of 100 lb. Imperial Gene rator. Oxygen Cylinders are connected with Manifold. Any number of welding stations can be supplied with both gases in this manner.

Patent Applied For.

#### ADVANTAGES OF IMPERIAL GENERATORS

The Imperial Automatic Acetylene Generator has two big advantages over all other makes:—a remarkably simple and positive carbide feed and an absolutely even pressure is constantly maintained under all service conditions. Both the feeding and the pressure regulations are wholly automatic in action. There are no weights of any kind, clock work or other complicated mechanism.

#### AUTOMATIC CARBIDE FEED

The carbide is fed into the water by a simple vibrator of the dashpot principle with but one moving part. This vibrator is operated automatically by the gas flowing through it from the generator through the torch. Whenever the torch is shut off, the feeding of the carbide automatically stops and when the torch is turned on again the carbide automatically starts to feed.

#### AUTOMATIC PRESSURE REGULATION

The pressure in the generator is controlled by the tension of the springs in a diaphragm governor and due to the automatic feed, as explained in the preceding paragraph, an absolutely even pressure is constantly maintained under all service conditions. This pressure is so steady that a torch will burn for hours at a time without any need of adjusting the torch valves. No Acetylene regulator is required in the service line, hence this point should be kept in mind when ordering Welding or Cutting Equipment for use with the Imperial Generator.

#### SAFETY FEATURES

Interlocking safety levers make the Imperial Generator absolutely foolproof, and compel the users to follow the proper sequence of the simple operations necessary to fill, start or shut off the generator.

A dependable safety blow-off makes it impossible to obtain more than 15 lbs. pressure in the generator, which is recognized as the maximum pressure allowable for acetylene gas.

The gas purifier section of the generator through which all the acetylene gas passes on its way from the generator to the torch has a water seal which cools the gas and absolutely prevents a back flash reaching the generator.

Patent Applied For.

#### TABLE OF CAPACITIES OF IMPERIAL ACETYLENE GENERATORS

Size of	Carbide	Carbide Used	Acetylene Gas Generated	Acetylene Gas Generated Per Charge	Approximate No. of Torches Used at Same Time			
Generator	Capacity	Per Hour	Per Hour		Light Work	Medium Work	Heavy Work	
.15 lb.	15 lbs.	3 lbs.	15 cu. ft.	75 cu. ft.	1	1	0	
25 lb.	25 lbs.	5 lbs.	25 cu. ft.	125 cu. ft.	2	1	1	
50 lb.	50 lbs.	10 lbs.	50 cu. ft.	250 cu. ft.	4	2	1	
100 lb.	100 lbs.	20 lbs.	100 cu. ft.	500 cu. ft.	10	5	2	

#### IMPERIAL GENERATORS VS. CYLINDERS

As a basis for comparison of relative capacities of Imperial Acetylene Generators and that of Cylinders or Drums of Compressed Acetylene Gas, we give the following data:

Size of Cylinder	*Capacity for Welding (See note below)	
100 cubic feet	15 cubic feet per hour	×
225 cubic feet	32 cubic feet per hour	
300 cubic feet	43 cubic feet per hour	

<sup>\*</sup>Note—The quantity of Compressed Acetylene Gas which may be drawn from a cylinder per hour without drawing out the acetone with it is limited to 1/7 of the total capacity of the cylinder.

One	15 lb	. Imperial	Generator	equals	1	cylinder	of	100	cu.	ft.	capacity	
One	25 lb	. Imperial	Generator	equals	11/2	cylinders	of	100	cu.	ft.	capacity	
One	50 1b	. Imperial	Generator	equals	3	cylinders	of	100	cu.	ft.	capacity	
One	100 lb	. Imperial	Generator	equals	6	cylinders	of	100	cu.	ft.	capacity	

#### CARBIDE IS EASY TO OBTAIN

Carbide suitable for use in the Imperial Generator is put up by the manufacturers in drums containing 100 lbs.

Carbide warehouses are located in from one to ten cities in every state and ship promptly.

Always specify  $\frac{1}{4}$ "x1/12" Carbide as this is the only size that should be used in the Imperial Generator.

This size usually costs from \$5.00 to \$6.00 per 100 lbs. in small lots, and less in ton lots. 100 lbs. carbide is equivalent to 500 feet of Acetylene Gas compressed in cylinders.

Patent Applied For.

#### TYPE A 15 LB. SIZE GENERATOR

(Capacity 15 cubic feet per hour, total gas produced per charge 75 cubic feet) because of its light weight is particularly adapted for small shops or field welding or cutting work and other service where portability is an important factor. It is also suitable for battery service stations for lead burning and for light welding and brazing, as it will supply one welding torch using a No. 5 or smaller tip. It will supply one cutting torch using No. 3 or smaller tip. (See Table on preceding page.)

#### TYPE A 25 LB. SIZE GENERATOR

(Capacity 25 cubic feet per hour, total gas produced per charge 125 cubic feet) is recommended for all garages and general repair shops, as it will supply one welding torch using a No. 6 or 7 tip or two welding torches each using a No. 5 or smaller tip. It will supply one cutting torch using No. 4 or smaller tip. (See Table on preceding page.)

#### TYPE A 50 LB. SIZE GENERATOR

(Capacity 50 cubic feet per hour, total gas produced per charge 250 cubic feet) is recommended for large repair shops and manufacturing service where practically continuous use is required. It will supply four welding torches, each using a No. 5 or smaller tip, or two welding torches, each using a No. 6 or 7 tip and one welding torch with a No. 8 or larger tip. It will supply two cutting torches, each using a No. 4 or smaller tip. (See Table on preceeding page.)

#### TYPE A 100 LB. SIZE GENERATOR

(Capacity 100 cubic feet per hour, total gas produced per charge 500 cubic feet) is recommended for service where a large number of welding torches are in continuous use. It will supply eight welding torches, each using a No. 5 or smaller tip, or four welding torches, each using a No. 6 or 7 tip and two welding torches with No. 8 or larger tips. It will supply four cutting torches, each using a No. 4 or smaller tip. (See Table on preceding page.)

Size	Height Over All	Diameter	Weight of Generator	Weight of Truck	Packed Weight
15 lb.	- 48"	19"	135 lbs.	70 lbs.	190 lbs.
25 lb.	56"	19"	160 lbs.	70 lbs.	250 lbs.
50 lb.	68"	24"	215 lbs.		350 lbs.
100 lb.	84"	30"	380 lbs.		600 lbs.

Larger sizes made up promptly to order.

# Imperial Manifolds For Oxygen and Hydrogen

Oxygen Manifolds are used in large installations where a great number of torches are being used. The use of an Oxygen Manifold eliminates the necessity of stopping work to change Oxygen Tanks and therefore saves time and money. (See cut, page 52.)

Imperial Oxygen Manifolds are made from special bronze forgings and extra heavy bronze and copper tubing. All joints are silver soldered and the completed manifold is tested under 3,700 lbs. hydraulic pressure.

On all Tripod and Wall Manifolds each Tank connection has a high pressure shut-off valve so that the manifold may be used with any number of tanks up to its capacity. A leaky valve on one or more tanks does not compel shutting down entirely, since this particular connection may be shut off, the tank removed and replaced by another without disturbing the operation of the torches. A double check valve makes each side independent, this being another point which enables the operator to change the tanks while the torches are burning. Imperial Manifolds can be furnished either for Oxygen or Hydrogen. It is very important that the kind of gas be specified when ordering Manifold. Be sure to state whether connections are wanted for Oxygen or Hydrogen, and give name of cylinder valve, if possible.



No. 138H Four Tank Cross-Type Manifold.

A reasonable priced manifold which will give excellent service and complete satisfaction. Can be furnished either complete with special manifold Regulator or without Regulator.

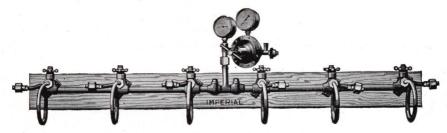
# Imperial Tripod and Wall Manifolds

For Oxygen or Hydrogen



No. 136-H Tripod Manifold.

Fitted with adjustable tripod which can be raised or lowered to accommodate either 100, 200 or 250-ft. cylinders. Can be furnished either with or without special manifold regulator. Can also be furnished without tripod. Can be made up in any number of tank connections above 4 in multiples of 2.



No. 137-H Wall Manifold.

Same as Imperial Tripod manifold shown above except it is mounted on an oak board for attaching to the wall or to an iron pipe stand. Furnished either with or without special pipe line regulator.

## Imperial Safety and Relief Valves

Patent Applied For.

For Generators and Pipe Line Service.



Regularly furnished on all Imperial Acetylene Generators and is unequalled for its sensitive and positive operation on low pressures. It can be set so as to open automatically at any desired pressure and may also be operated manually by means of the handle.

No. 130-H is for use with 15-lb. and 25-lb. Imperial Generators. No. 131-H is for use with 50-lb. and No. 132-H is for 100-lb. Imperial Generators. No. 135-H is for use with Flash-Backs on all sizes of Imperial Generators.

Cat. No.	Size Inlet	Size Outlet	Diam. of Diaphragm
130-H	½" I. P. T.	3⁄4″ I. P. T.	315/16"
131-H	3⁄4" I. P. T.	1" I. P. T.	315/16"
132-H	1" I. P. T.	1¼" I. P. T.	315/16"
135-H	½" I. P. T.	3/4" I. P. T.	315/16"



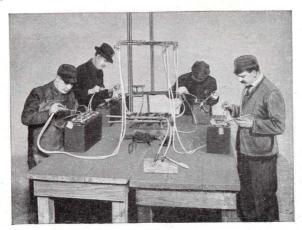
## Imperial Line Flash-Back Check

For Acetylene Service Pipe Lines.

Used where acetylene gas is piped into a shop from a Generator. It prevents flash-backs from a torch going back through the acetylene line. It is 3-inches in diameter, 14 inches high and made of sheet iron, seams welded and galvanized inside and out. Inlet is ½" I.P.T. and outlet has standard Imperial Hose connection.

No. 140-H Line Flash-Back Check

### Imperial Lead Burning Equipment



Burning Terminals on Storage Batteries with Imperial Equipment.

Imperial Lead Burning Equipment is used for storage battery work, light welding and brazing, repairing radiators, melting platinum, manufacturing jewelry and similar work.

In principle, this process is the same as that of autogenous welding except that lead, having a considerably lower melting point than other metals, requires a small, concentrated, sharp, needle-pointed flame.

Imperial Lead Burning Equipment, as listed on the following pages, has been developed to a high degree of efficiency and fully covers the broad requirements of service. Imperial Equipment is furnished for use with all available combinations of gases—oxygen and acetylene, oxygen and hydrogen, oxygen and illuminating gas, and hydrogen and compressed air.

A wide range of flame can be secured, from a fine needle point suitable for burning the smallest terminal on a motorcycle battery to a large flare for finishing work, making Imperial Equipment a favorite with practical battery men.

Oxygen compressed in cylinders of 100 cubic foot capacity, dissolved Acetylene in cylinders of 40 to 100 cubic foot capacity, and Hydrogen in cylinders of 100 cubic foot capacity, are most generally used for this service.

Supply Stations for these gases are located in most distributing centers throughout the country, and when empty, the cylinders can be returned to be refilled at a small charge per cubic foot of gas.

## Imperial Lead Burning Equipment



Type L Lead Burning Torch.

With Tips Nos. 0, 1, 2 and 3, as furnished with Imperial Lead Burning Outfits Nos. 20, 20 DD, 21 and 26. The same Torch with Tips Nos. 3, 4, 5 and 6 is furnished with Outfit No. 22.



Type L-3 Lead Burning Torch.

With Tips Nos. A, B, C and D, as furnished with Imperial Lead Burning Outfit No. 28.



Type L Bench Block.



Type L-3 Bench Block.

The Type L Bench Block is furnished with Imperial Lead Burning Outfits Nos. 20, 20-DD, 21, 22 and 26. The Type L-3 Bench Block is furnished with Imperial Lead Burning Outfit No. 28.

NOTE.—See following pages for complete listing of Imperial Lead Burning Outfits. See pages 28-30 for Regulators for Lead Burning Equipment.

## No. 20 Imperial Lead Burning Outfit

For Use with Acetylene and Oxygen



The No. 20 Lead Burning Outfit is for use with dissolved Acetylene Gas and Oxygen in high pressure tanks.

This outfit can also be used for light welding and brazing on all metals, platinum melting, etc.

No. 20 Outfit consists of

- 1 Type D Oxygen Regulator with 50 lb. pressure gauge;
- 1 Type 10 R Acetylene Constant Pressure Regulator;
- 35 feet 3/16" special rubber hose;
  - 1 Type L Bench Block with 2 needle valves;
  - 1 Type L Imperial Lead Burning Torch with Tips Nos. 0, 1, 2 and 3; I Wrench. Outfit packed in individual carton.

No. 20-DD Outfit is identical with the No. 20 as shown above, except that a Type DD Acetylene Regulator is substituted for the Type 10-R Regulator.

## No. 21 Imperial Lead Burning Outfit

For Use with Hydrogen and Oxygen



The No. 21 Lead Burning Outfit is for use with Hydrogen and Oxygen in high pressure cylinders.

This outfit can also be used for light welding and brazing on all metals.

#### Outfit consists of-

- 1 Type D Oxygen Regulator with 50 lb. pressure gauge;
- 1 Type DH Hydrogen Regulator with 50 lb. pressure gauge;
- 35 feet 3/16" special rubber hose;
  - 1 Type L Bench Block with 2 needle valves;
  - 1 Type L Lead Burning Torch with Tips Nos. 0, 1, 2 and 3;
  - 1 Wrench.

Outfit packed in individual carton.

## No. 22 Imperial Lead Burning Outfit

For Use with Hydrogen and Compressed Air



The No. 22 Lead Burning Outfit is for use with Hydrogen Gas in high pressure tank and Compressed Air.

#### Outfit consists of-

- 1 Type DH Hydrogen Regulator with 50 lb. pressure gauge;
- 1 Type 10R Constant Air Pressure Regulator;
- 35 feet 3/16" special rubber hose;
  - 1 Type L Bench Block with 2 needle valves;
  - 1 Type L Imperial Lead Burning Torch with Tips Nos. 3, 4, 5 and 6;
  - 1 Wrench.

Outfit packed in individual carton.

## No. 26 Imperial Lead Burning Outfit

For Use with Welding and Cutting Outfits

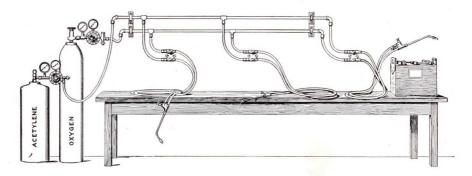


The No. 26 Imperial Lead Burning Outfit can be used in connection with any Imperial Welding or Cutting Outfit, or that of any other make.

#### Outfit consists of-

- 1 Type L Imperial Lead Burning Torch with Tips Nos. 0, 1, 2 and 3;
- 1 Type L Bench Block with 2 needle valves;
- 16 Feet 3/16" special rubber hose;
- 1 Wrench.

Outfit packed in individual carton.



The diagram above shows how any number of No. 26 Outfits can be connected up to operate from one set of regulators. This installation applies equally as well with reference to the Nos. 20, 21, 22 or 28 Outfits when more than one torch is required.

## No. 28 Imperial Lead Burning Outfit

For use with Illuminating Gas and Oxygen



The No. 28 Outfit is for use with Illuminating Gas or Natural Gas and with Oxygen in high pressure tanks.

The "pencil" torch supplied with this outfit is small and very light in weight, and is a great favorite with operators.

The safety water seal does not offer resistance to the flow of the gas, and the mixing of gases occurs in the bench block as well as the regulation of the pressure.

#### Outfit consists of:

- 1 Type L-3 Lead Burning Torch with 4 tips (one each A, B, C and D).
- 1 Type L-3 Adjustable Bench Block.
- 1 Type D Oxygen Regulator, with 50-lb. Gauge and with one No. 81-H Hose Connection.
- 1 Type L-3 Water Seal with one No. 41-H Hose Connection.
- 1 No. 77-E Shut-off Cock.
- 1  $17\frac{1}{2}$  ft. length  $\frac{3}{16}$ " Hose at .10 ft.
- 1 6 ft. length  $\frac{5}{16}$ " Hose at .12 ft.
- 1 Wrench.

Outfit packed in individual carton.

# No. 6 Imperial Carbon Burning Outfit

Oxygen Process



Removing Carbon with an Imperial Outfit.

This outfit is specially designed for the immediate and thorough removal of all traces of carbon from automobile cylinders by burning it out with oxygen.

The process is very simple: Combustion is started in the engine cylinder with a lighted taper, or match, inserted though spark plug opening, followed by inserting copper end of IMPERIAL CARBON BURNING TORCH—thus introducing oxygen into the cylinder and the combustion thus created completely consumes the carbon, leaving the cylinders absolutely clean.

It is advisable to pour a little kerosene oil into the cylinders when the operation is finished.

A four-cylinder engine can be thoroughly cleaned with the IM-PERIAL CARBON BURNING OUTFIT in less than thirty minutes, at the small cost of from 10 to 15 cents per cylinder.

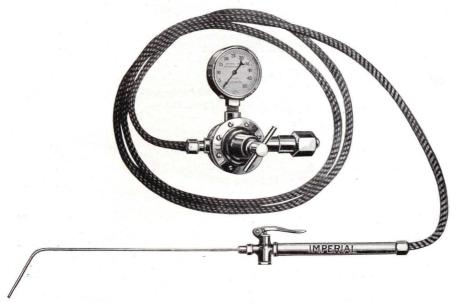
It will be readily seen that this is a wonderful improvement over the old, expensive and slow process of removing carbon by scraping the cylinder, and the operation a very profitable one to the garage owner.

There is no risk or danger connected with the operation either to operator or engine.

See following page for listing.

## No. 6 Imperial Carbon Burning Outfit

Oxygen Process



The IMPERIAL CARBON BURNING OUTFIT is of correct design, well made of the best materials, and will last for years.

The Type G Torch, as shown above, has a self-closing trigger valve that shuts off the oxygen instantly when released, which makes a big saving in gas consumption.

#### No. 6 CARBON BURNING OUTFIT consists of—

- 1 Type G Carbon Burning Torch fitted with shut-off valve and extra long flexible copper tubing;
- 1 8-foot length Oxygen Hose;
- 1 Type D High Pressure Oxygen Regulator with pressure gauge and cylinder and hose connections.

Outfit packed in individual carton, approximate weight, 6 lbs.

Note—The Type G Torch is regularly supplied with Imperial Welding and Cutting Outfits Nos. 1, 4 and 5, shown on preceding pages.

See preceding page for description of operation.

# No. 30 Imperial Brazing and Soldering Outfit

For use with Acetylene



The No. 30 Outfit burns acetylene and air, the tips drawing in the necessary oxygen from the atmosphere, thus making the operating cost extremely low.

The Type AO Torch is extremely well made, light and durable, and the very hot blue flame produced is adapted to all kinds of brazing and soldering work, repairing radiators, small preheating and jewelers' work. The hose connection fits the ordinary 40-foot Prest-O-Lite gas container. The Torch only can be purchased separately if desired.

Outfit consists of:

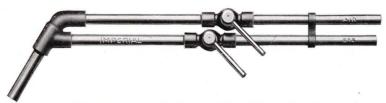
Type AO Torch with two brazing tips and one radiator soldering tip.

6 foot length of hose with connections.

NOTE.—When it is desired to use the above outfit on a large acetylene cylinder, we can furnish a suitable adaptor at an extra charge. When ordering state name of maker of acetylene cylinder on which outfit is to be used.

## Imperial Gas Blow Torches

For Soldering, Preheating and Brazing



No. R-0 and R-1 Imperial Gas Blow Torch.



No. R-2 Imperial Gas Blow Torch.

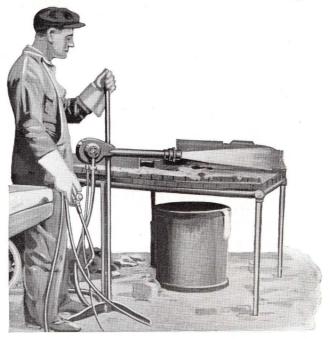


No. R-3 Imperial Gas Blow Torch.

For use with illuminating gas and compressed air. Very efficient and economical for preheating small work. Nos. R 0 and R-1 are used for soldering radiators and all four sizes are used in machine and repair shops for heating and annealing tools, for hardening and brazing of numerous articles. Every tool-room needs these torches.

Torch No.	Inside Diameter of Air Nozzle	Inside Diameter of Gas Nozzle	Outside Diameter of Tubing at Hose End
R-0	1/16-inch	1/4-inch	5/16-inch
R-1	½-inch	21/64-inch	3%-inch
R-2	¼-inch	33/64-inch	9/16-inch
R-3	9/32-inch	29/32-inch	5%-inch

### No. 97-H Gas-Electric Preheating Torch



No. 97-H Gas-Electric Pre-Heating Torch.

This torch is intended for preheating when necessary to overcome expansion and contraction in welding, and also saves the time of the welder and greatly reduces the amount of the costlier acetylene and oxygen necessary to make the weld. An improvised brick furnace, such as is used with charcoal, will give splendid results.

It contains a small motor-driven blower which supplies a forced draft to gas burner and is furnished complete with electric cord and plug for connecting to electric light socket. The gas fitting is usually con-

nected by flexible hose to gas supply line.

It is self-contained, portable and the burner can be rotated to any angle or position desired. Simply turn on current, light the gas, and a clean flame, producing an even temperature up to 2,500 degrees Fahrenheit is instantly available.

Its cost of operation, depending on the local charges for gas and

electricity, is from five to ten cents per hour.

This torch can also be used for heat treating, heating ovens, brazing, riveting, bending metals and a variety of other work, thus making it a valuable part of the equipment of any Machine Shop, Foundry, Garage or Welding Shop.

When ordering always give voltage. The motor will operate on

direct current or on alternating current of 25 to 60 cycles.

## Kerosene Preheating Torches



This preheating outfit is adapted for both indoor and outdoor service for preheating castings for welding and for all brazing, tempering, etc.

It vaporizes any grade of kerosene or coal oil and produces an intense reddish blue flame, which is steady, clean, easily regulated and without smoke or soot.

The tank is made of steel with bottom interlocked and brazed; turned inside and outside. It is furnished in the several sizes as listed below:

No.	Capacity of Tank	Length of Hose	Oil Consumption Per Hour	Shipping Weight
92-H	3 gal.	6 ft.	½ gal.	50 lbs.
93-H	5 gal.	6 ft.	1 gal.	60 lbs.
94-H	10 gal.	12 ft.	1½ gal.	80 lbs.
95-H	12 gal.	12 ft.	2½ gal.	95 lbs.
96-H	15 gal.	12 ft.	3 gal.	110 lbs.

Tanks arranged for attaching two burners can be furnished at an extra charge.

## Imperial Welding, Cutting, Carbon and Lead Burning Hose



Imperial Welding and Cutting Hose which is furnished with outfits Nos. 1, 3, 4 and 5 is made especially for Oxygen and Hydrogen or for Acetylene and has a braided linen insertion between an inner and outer seamless rubber tube. The manufacturers guarantee this hose to stand a working pressure of 400 lbs. per square inch, and while light and very flexible, tests show unexcelled durability. The inter-

changeable union hose connections for attaching to torch and regulators are cemented into hose and clamped, eliminating all chances for gas leakage. The Hose furnished with other Imperial Outfits is specially selected for the service required. When ordering Hose please specify symbol and length.

Cat. No.	Color	Gas	Length	Inside Diameter	Outside Diameter	With Coupling	Use
10H	Black	Oxygen	25′-0″	5/16"	5/8"	u )	Welding and Cutting
11H	Red	Acetylene	25′-0″	5/16"	5/8"	u	Outfits Nos. 3 and 5
12H	Black	Oxygen	10'-0"	3/16"	1/2"	"	No. 2 Outfit
13H	Red	Acetylene	10'-0"	3/16"	1/2"	u	8
14H	Black	Oxygen	12'-6"	5/16"	5/8"	u	Outfits Numbers
15H	Red	Acetylene	12'-6"	5/16"	5/8"	u	1 and 4
16H	Braided	Oxygen	8'-0"	3/16"	3/8"	0	No. 6 Outfit
17H	Copper Armored	Oxygen	25′-0″	5/16"	34"	With Coupling	Cutting
19H	Black	Oxygen and Acetylene	35′-0″	3/16"	3/8"	0	Lead Burning
23H	Braided	Acetylene	6'-0"	3/16"	3/8"	With Coupling	No. 30 Outfi
9H	Red	City Gas	6'-0"	14"	1/2"	0	Lead Burning



Copper Armored Hose as illustrated is recommended for extra heavy service, particularly for cutting in wrecking work where the hose is to be dragged over rough ground, iron girders, etc.

### Imperial Hose Connections



No. 41-H and 81-H.



No. 104-H.



No. 42-H.



No. 43-H.



Nos. 5-H, 6-H, 7-H and 44-H.



No. 105-H.

No. 41-H Hose Connector with tail piece for attaching  $\frac{5}{16}$  inch inside diameter hose to Imperial Welding and Cutting Torches.

No. 42-H Coupling, for coupling two lengths of  $\frac{5}{16}$  inch I. D. hose, which is the size furnished with all Imperial welding, cutting and lead burning outfits. It fits both 41-H and 81-H connections.

No. 43-H Torch Adapter, for attaching Imperial Welding and Cutting Torches to hose fitted with old style Oxweld connections.

No. 5-H Torch Adapter, for attaching Imperial Welding and Cutting Torches to hose fitted with new style Oxweld connections.

No. 6-H Torch Adapter, for attaching Imperial Welding and Cutting Torches to Davis-Bournonville oxygen hose connections.

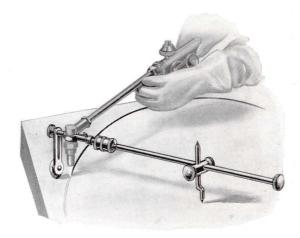
No. 44-H Torch Adapter, for attaching Imperial Welding and Cutting Torches to Davis-Bournonville acetylene hose connections, also to Torchweld oxygen hose connections and to both oxygen and acetylene hose connections of Rego, Willis and other makers.

No. 7-H Torch Adapter, for attaching Imperial Welding and Cutting Torches to Torchweld acetylene hose connections.

No. 81 H Connector with tail piece for attaching  $\frac{3}{16}$  inch inside diameter hose to Imperial Carbon and Lead Burning Torches, Regulators and Bench Blocks.

No. 105-H Hose Clamp, for 5% inch outside diameter hose as furnished on all Imperial welding and cutting outfits.

## No. 27-H Imperial Circle Cutter Attachment



For use in connection with Imperial Cutting Torches for cutting accurate circles in steel or wrought iron.

No. 27-H Imperial Circle Cutter Attachment.

## Imperial Double Hose Connection



This fitting permits the use of two torches from one set of regulators or from an Imperial Generator. Each branch to the torch is provided with a shut-off valve. Two of these fittings are necessary, one for the oxygen hose and the other for the acetylene.

It may also be screwed into outlet connection of Imperial Acetylene Generators when desired to operate two torches.

No. 121-H Imperial Double Hose Connection.

## Imperial Welding and Cutting Goggles



The No. 87-H Goggles are light, rust-proof, sanitary, strong and perfect fitting. Amber lenses of just the right density give full protection to the eyes.

Easily renewable, plain glass cover lenses protect the amber lenses from blistering. Can be worn with comfort. After a trial you will not be satisfied with any other kind.

The No. 86-H are similar to the No. 87-H except lighter and less expensive. The nose piece is soft rubber. The lenses are removable by simply unscrewing the retaining ring.

No. 86-H Goggles.

No. 86-H Imperial Welding and Cutting Goggles.

No. 111-H Amber Lens for No. 86-H.

No. 112-H Blue or Green Lenses for No. 86-H.

No. 113-H Clear Cover Glass for No. 86-H.

No. 87-H Imperial Welding and Cutting Goggles.

No. 88 Amber Lens for No. 87-H Goggles.

No. 90 Cover Glass for No. 87-H Goggles.

## Imperial Welding and Cutting Spectacles



No. 76-H Spectacles.

The No. 76-H Spectacles are fitted with Essentialite amber lenses, have flexible ear holds and light fibre frame, making them very popular with welders doing light work.

No. 76-H Spectacles with Essentialite Lenses.

No. 76-HH Essentialite Amber Lens for No. 76-H.

No. 77-H Smoked Green Lens for No. 76-H.

### Imperial Welding Rods



The use of proper welding rods and fluxes is necessary for good welding. Imperial rods for cast iron, steel, brass, aluminum, etc., and fluxes for different metals are made to our formula and contain elements which assist very materially in the production of high-grade welds.

For welding metal that is  $\frac{1}{8}$ " or less in thickness, use welding rod 3/16" in diameter, while for welding metal  $\frac{1}{8}$ " to  $\frac{5}{8}$ " thick, the  $\frac{1}{4}$ " rod should be used. By using only high-grade rod of the proper size and keeping it in contact with the weld, hard spots and cold shuts can be prevented.

	Length
Cast Iron—3/16", ¼", 5/16", ¾", ½" diameter	18 inches
Norway Iron— <sup>1</sup> / <sub>8</sub> ", 3/16", <sup>1</sup> / <sub>4</sub> ", 5/16", <sup>3</sup> / <sub>8</sub> ", <sup>1</sup> / <sub>2</sub> " dia	meter36 inches
Mild Steel—3/16", ¼" diameter	36 inches
Nickel Steel—¼" diameter	36 inches
Vanadium Steel—¼" diameter	
Drawn Tobin Bronze—1/8", 3/16", 1/4" diameter	18 inches
Imperial Tobin Bronze—¼" diameter	18 inches
Imperial Cast Bronze—1/4" dia., for welding mall	iron18 inches
Imperial Manganese Bronze—1/4" diameter	18 inches
Imperial Cast Brass—1/4" diameter for welding bra	ass18 inches
Drawn Aluminum—¼" diameter	18 inches
Cast Aluminum—¼" diameter	18 inches
Imperial C. P. Copper—¼" diameter	

Note:—For the convenience of our customers we have adopted color markings as shown below to make the various kinds of Rod easily distinguishable:

Cast Iron, not marked.
Norway Iron, copper coated.
Mild Steel, yellow.
Nickel Steel, white.
Vanadium Steel, green.
Drawn Tobin Bronze, red.
Imperial Tobin Bronze, black.

Imperial Cast Bronze, green.
Imperial Manganese Bronze, white.
Imperial Cast Brass, blue.
Drawn Aluminum, not marked.
Cast Aluminum, not marked.
Imperial C. P. Copper, not marked.

For further information with prices see special price list.

## Imperial Welding Wire

Wt. per Coil

Norway Iron Welding Wire—1/16", ½", 3/16" diameter. .55 to 100 lbs. Mild Steel Welding Wire—1/16", ½", ¼" diameter. . . . .50 to 100 lbs. Brass Welding and Brazing Wire—1/16", ½" diameter. . . . 50 to 60 lbs.

Note:—Norway Iron Welding Wire is copper coated, Mild Steel and Brass Welding Wire come in their natural colors.

## Imperial Welding Flux



No. 20-H For Welding Cast Iron. 1/2-lb., 1-lb. and 5-lb. cans.

No. 21-H For Welding Brass, Bronze and Copper. 1/2-1b. cans.

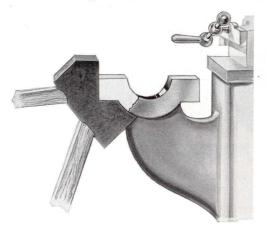
No. 22-H For Welding Aluminum. 1/2-lb. cans.

### Imperial Welding Carbon Paste

Welding Carbon Paste can be used for a great number of operations in the welding process. For instance, if there is a threaded hole near the break to be welded the hole can be filled with paste to prevent the flame from destroying the thread. It is also used to protect gear teeth and other parts of the object to be welded. It can ordinarily be applied with the fingers to the cold or slightly warm metal to act as a dam or mold to hold the molten metal where it is wanted. However, in cold weather, it may be necessary to warm as much paste as is to be immediately used by placing it in some sort of metal container and then into a bucket of hot water or by standing the container on top of a steam heater or fire, care being taken not to permit it to get hot enough to fume. When in place the paste should be baked as slowly as possible to a red heat or until fumes cease to come off by applying the flame to the adjoining metal. When the paste is to be kept red hot for a long period, it should be covered with powdered charcoal to prevent burning. If, after being baked, it will not adhere to the metal it can be supported by means of fire bricks. The Welding Carbon Paste is regularly sold in 5 lb. cartons.

No. 85-H Imperial Welding Carbon Paste.

# Imperial Welding Carbon Rod and Plates



IMPERIAL GRAPHITE—CARBON RODS AND BLOCKS—are used in welding of machined parts, to prevent their being damaged or bolt holes, etc., filled in by the welding. Also to make moulds where a broken part has been lost, as shown in the illustration above. We furnish rods and blocks of sizes and dimensions as listed below:

#### Welding Carbons (Round Rod)

½"x12"	5/8′′x12′′	5/8′′x24′′
1/4"x12"	3/4"x12"	3/4"x24"
$\frac{5}{16}''$ x12''	1"x12"	1"x24"
3/8"x12"	3/8"x24"	1½"x24"
<sup>1</sup> / <sub>2</sub> "x12"	1/2"x24"	1½"x24"

#### Welding Carbon Plates (Rectangular)

½"x12"x12"	3/4"x12"x12"	3/4"x31/2"x191/2"
$\frac{5}{16}$ "x12"'x12"	½"x 6"x 6"	1"x4"x30"
3/8"x12"x12"	½"x 4"x24"	1"x6"x30"
½"x12"x12"	½"x 6"x24"	1"x12"x30"
5/8"x12"x12"	3/4"x 5"x18"	10

We can furnish Todd Clamps, Screw Clamps, V Blocks, Surface Plates, Welding Tables and any equipment needed to complete a welding shop.

### Imperial Spark Lighters



No. 79-H Spark Lighter with Round File.

The Imperial Spark Lighter furnishes a convenient means of lighting welding and cutting torches without danger of burning fingers.

The round file may be rotated to a new surface, and therefore will produce approximately 5,000 ignitions.

Renewal Flint Tips can be furnished for either style of lighter.

No. 79-H Spark Lighter, Round File.

No. 79-HH Extra Flint.

## Imperial Welding and Cutting Gloves



No. 54-H Horsehide Glove.



No. 56-H Asbestos Glove.

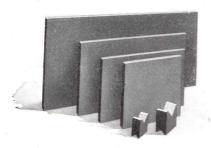
These Gloves are strong and serviceable, made from high-grade materials, and afford ample protection against heat. The No. 54-H Glove is made of mineral tanned horsehide.

The No. 56-H is made of asbestos cloth with fleece lining.

No. 54-H Horsehide Glove.

No. 56-H Asbestos Glove, with one finger

## Imperial Surface Plates and "V" Blocks



Front View.



Back View.

These Surface Plates are made of cast iron and the top surface and two edges are accurately finished. In the case of the "V" Blocks, the two surfaces of the "V" are finished.

The Surface Plates are used for lining up broken pieces to be welded and are regularly carried in stock in the following sizes: 12"x12", 12"x18", 14"x24" and 18"x36". Other sizes to order.

The "V" Blocks are for lining up shafting and similar work are regularly carried in stock in 4''x4''x2'' and  $3''x3''x1\frac{1}{2}''$  sizes. Other sizes to order.

## Imperial Asbestos Paper

A necessity in the welding shop for preheating work and preventing castings from cooling off too rapidly after being welded. Furnished in 100-lb. rolls, 36" wide and 1/32" to 1/8" in thickness.

## Imperial Cylinder Trucks



No. 52-H.



No. 51-H.



No. 53-H.

For use with Imperial Welding and Cutting Outfits. A great convenience when outfit is moved around shop or yards, and eliminates danger of tanks being knocked over and consequent breakage of apparatus.

The cylinder truck is made in three sizes: No. 51-H with platform 11x19 inches, for two 100 foot cylinders; No. 52-H with platform 14x23 inches, for one 200-foot and one 300-foot cylinder, and No. 53-H with platform 10x10 inches, for one 100-foot or one 200-foot oxygen cylinder for carbon burning.

The large diameter of the wheels, 11 inches, and broad tread, make it easy to roll over uneven floor or ground.

The No. 51-H is 38 inches, the No. 52-H is 46 inches, and the No. 53-H is  $37\frac{1}{2}$  inches in height over all, and the weight is approximately 45, 55 and  $34\frac{1}{2}$  lbs., respectively.

## Imperial Generator Trucks

Accommodates either the 15 lb. or 25 lb. size of Imperial Acetylene Generator and a tank of oxygen. Weight, approximately, 40 lbs.



No. 68-H Generator Truck.

### Sources of Supply for Gases

The Imperial Automatic Acetylene Generator as described elsewhere in this catalog produces absolutely pure acetylene gas from carbide and water at a large saving over the cost of acetylene gas compressed in cylinders.

Oxygen, hydrogen and acetylene gas in cylinders can be obtained from service stations in most of the prominent cities. We can usually arrange with gas manufacturers for the free use of oxygen and hydrogen cylinders, but a considerable amount of money must be deposited with the gas manufacturers for each acetylene cylinder used.

### Oxygen, Hydrogen and Acetylene Gas Cylinders

													L	4p	pr	oxin	nate	
	Capacity of	cylin	nder	S								W	reig	ht	0	f cyl	inder	S
0	f various ma	nufa	ctur	ers									,		w1	hen f	ull	
	Oxygen,	100	cu.	ft.		 		 		 		 	.8	5 1	to	122	lbs.	
	"	200	"	".	 		 	 		 		 				150	"	
	Hydrogen,	100	"	".	 		 	 	 	 		 	. 8	5 t	0	122	"	
	"	200	"													.150	"	
	Acetylene,	100	66	٠.	 		 	 		 		 				. 85	"	
	"	300	"	"	 			 		 		 				.220	"	
	"	100	"	"	 			 		 		 				. 75	"	
		225	"	".	 		 2 .	 		 		 				.180	"	
	"	120	"	".	 		 	 		 		 				120	"	
	"	225	6.6	".	 		 	 	 	 		 				.180	"	

The contents of oxygen and hydrogen gas cylinders can be checked by the scale provided on dial of gauge on the regulator. A correct reading is obtained at a temperature of  $60^{\circ}$  Fahrenheit and varies somewhat at other temperatures.

The contents of acetylene cylinders can be determined only by weight. On each cylinder is stamped the empty or tare weight so that any excess above this is gas in pounds and, as in acetylene gas there are usually  $14\frac{1}{2}$  cubic feet to a pound weight, the number of feet of acetylene in a cylinder can easily be determined.

To provide a constant supply of gas, it is usually advisable to get the use of from three to six cylinders or more, according to requirements, which would eliminate possibility of running out of gas by having extra cylinders on hand for use while getting empties recharged.

### Approximate Cost of Operating Imperial Oxy-Acetylene Equipment

Welding

	Acetyle	ne	Oxyge:	n		
Thickness of Metal	Consumption per hour	Cost of gas per hour	Consumption per hour	Cost of gas per hour	Total cost of gas per hour	Approximate capacity per hour of welde seam
$\frac{3}{16}$ " to $\frac{1}{4}$ "	15 cu. feet	*\$0.30	17 cu. feet	*\$0.34	\$0.64	15 to 20 lineal feet
3/8" to 1/2"	43 cu. feet	* .86	47 cu. feet	* .94	1.80	7 to 12 lineal feet

\*Based on price of 2 cents per cubic foot for both gases.

NOTE:—In welding metals of from 3" to 1/4" in thickness, the average approximate capacity, expressed in terms of lineal feet of welded seam, would be from 15 to 20 feet per hour, being a cost for gas of from 3 to 4 cents per lineal foot. For metals  $\frac{3}{8}$ " to  $\frac{1}{2}$ " in thickness the approximate capacity would be from 7 to 12 lineal feet per hour, being a cost for gas of from 15 to 25 cents per lineal foot.

Under continuous use with the No. 3 tip a cylinder containing 100 cubic feet of acetylene will run about 61/2 hours, while the same quantity of oxygen would run about 6 hours.

With the No. 5 tip, a cylinder containing 100 cubic feet of acetylene would run about 2½ hours, while the same quantity of oxygen would run about 2 hours.

#### Cutting

	Açetyle	ne	Oxvg	en	p	f po		
Thickness of Metal	Consumption per lineal	Cost per lineal foot	Consumptior per lineal foot	Cost per lineal foot	Time require per foot of cutting	Total cost ogas per cuttin foot		
1/4" 3/8"	.13 cu. feet .18 cu. feet	*\$0.003 * 0.0036	.50 cu. feet .90 cu. feet	*\$0.01 * 0.018	1 minute 1 <sup>1</sup> / <sub>4</sub> minutes	1½ to 1½ cents 2¼ to 2½ cents		

\*Based on price of 2 cents per cubic foot for both gases.

NOTE:-In continuous cutting through metal 1/4" thick, the cost for gas would be about \$0.02 per running foot and the time about one minute.

For metal 3/8" thick, the cost for gas per running foot would be about \$0.03

per foot and the time about 1¼ minutes.

When cutting ¼" metal, a cylinder containing 100 cubic feet of acetylene would run about 12 hours, while the same quantity of oxygen would run about 31/3 hours.

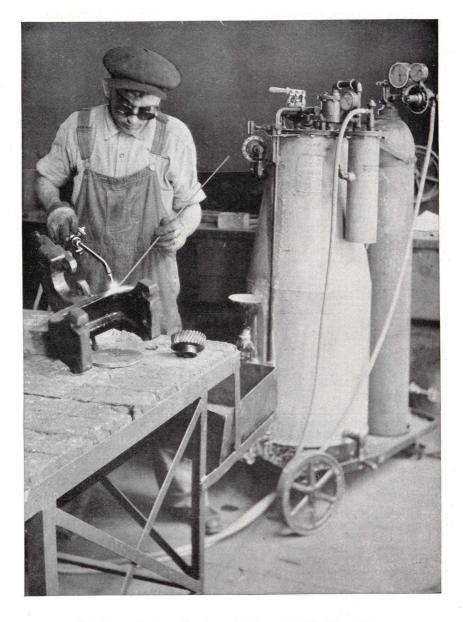
For 3/8" metal, a tank containing 100 cubic feet of acetylene would run about 111/2 hours, while the same quantity of oxygen would run about 21/3 hours.

It will be noted that in the process of cutting the extra quantity of oxygen required is due to the cutting jet of pure oxygen which is used in addition to that mixed with the acetylene.

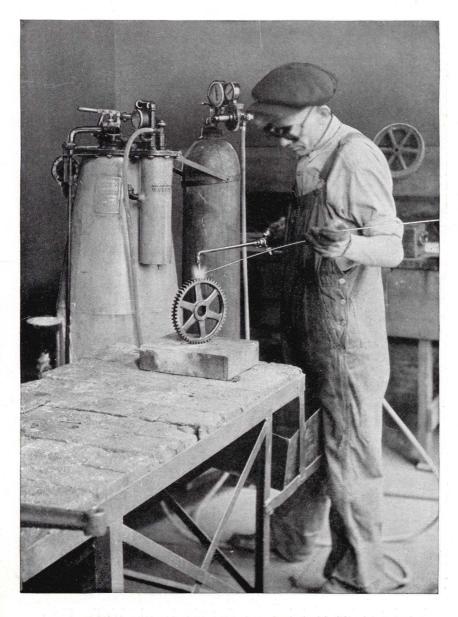
Tanks containing 200 cubic feet of gas would run twice as long as the 100-

foot tanks.

The above estimates are based on acetylene and oxygen gas in cylinders costing \$2.00 per 100 cubic feet. The cost of acetylene gas would be less when Imperial Acetylene Generator is used. Cost of labor should be added to the total cost of gas.



Welding a Broken Casting with Imperial Welding Plant.



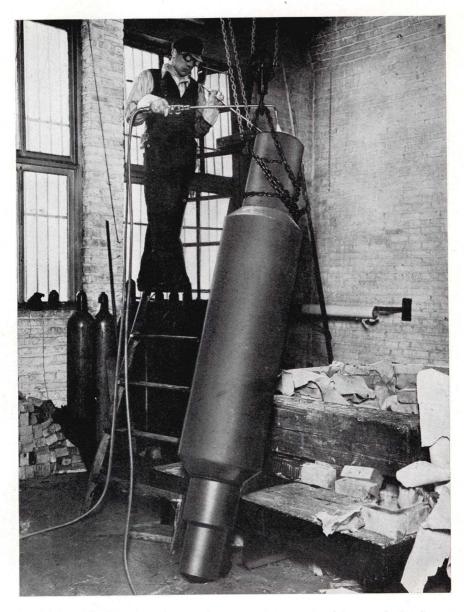
Welding Small Gear with Imperial Welding Plant.



Welding Broken Teeth in Large Gear with Imperial Welding Plant.



Boiler Tubes Reclaimed by Welding on New Ends-Thus Saving \$344.50.



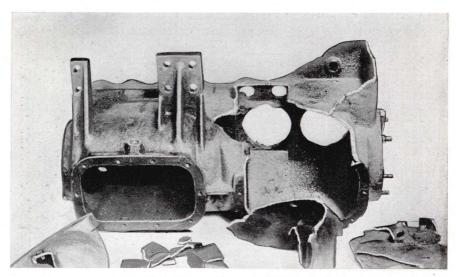
Saving a 4,500-lb. Semi-Steel Roller from the junk pile. Blowholes in one end were disclosed after machining. See views on opposite page.



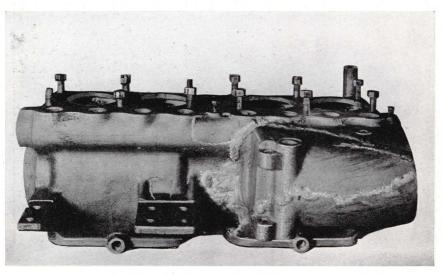
Before Welding.



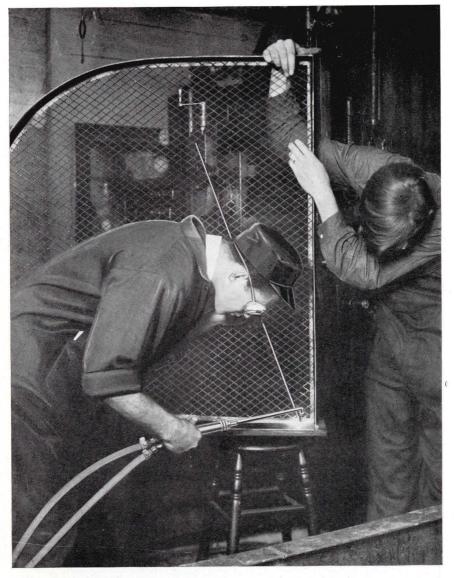
After Welding. See view on opposite page.



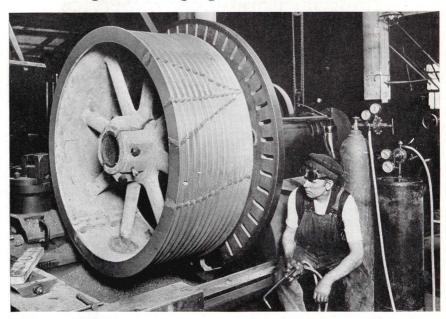
Auto Crank Case-Before Welding.



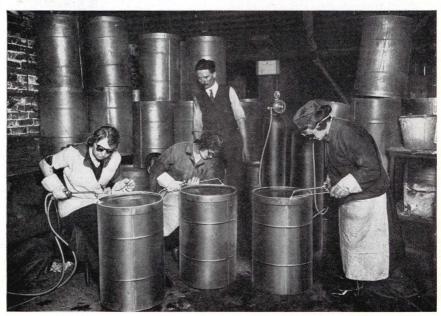
Same as above-After Welding.



Making Guards for Band Saws with Imperial Welding Torch.



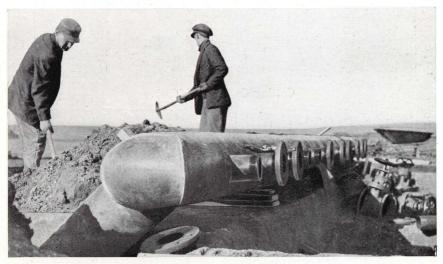
Rope Drive Pulley for Textile Mill-Welded in five places.



Welding Fireless Cookers on War Contract. 92



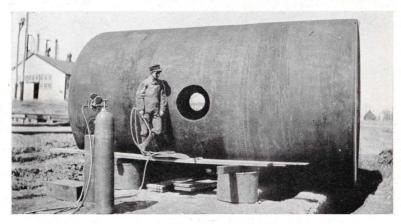
Welding Pipe Line.



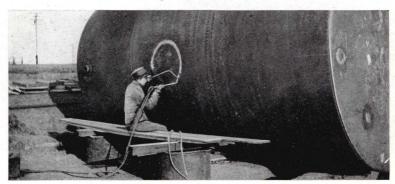
Special Fitting made with Imperial Torch out on the job, saving much time and money.



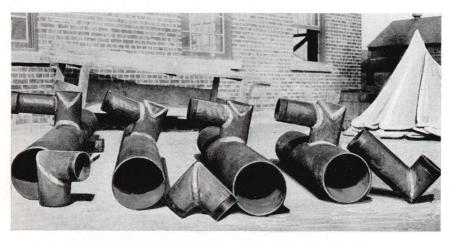
Welding Flange on Tank.



Cutting Cupolas off Tank.



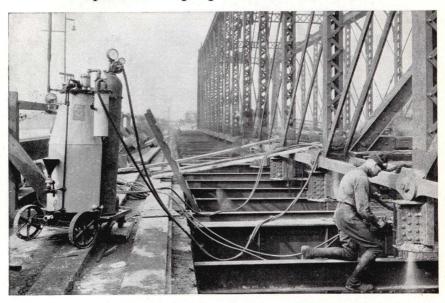
Welding Patch on Tank.



Special Fittings made with Imperial Welding Torch.



Saving Operating Time by cutting off rivets to renew jaws of Excavator. This work used to be done by hand and resulted in a 24-hour shut-down every few days. Renewal now takes only a few hours.



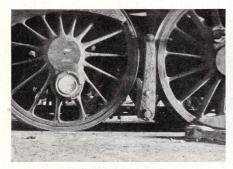
Cutting Out Steel Girders on Polk Street Bridge, Chicago—Note Portability of Imperial Generator on Truck.

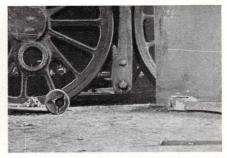


Cutting Out Steel Girders on Harrison Street Bridge, Chicago.

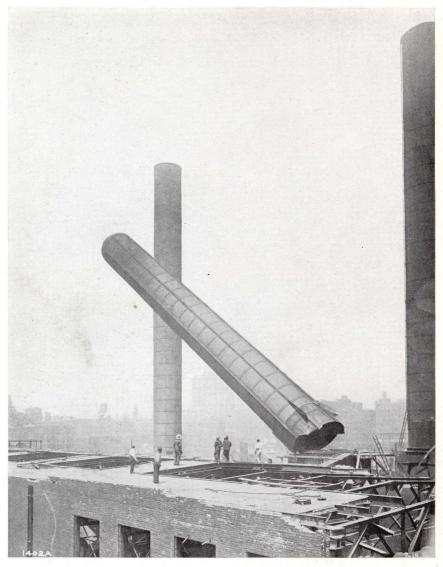


Cutting Cast Iron Sidewalk with Imperial Torch.

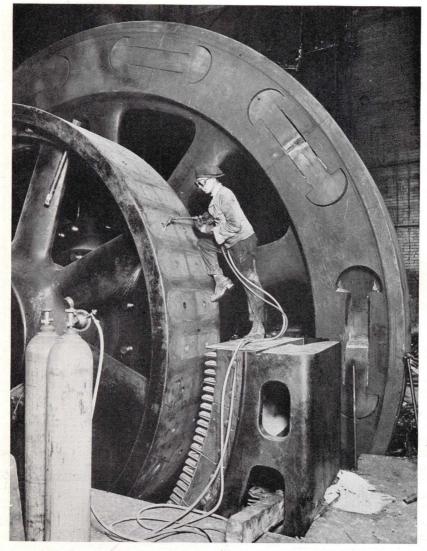




Broken part removed from drive wheel of Locomotive in 20 minutes with the Imperial Cutting Torch. This would have taken at least 2 days using cold chiscls.



Felling Huge Smoke Stacks at Harrison Street Plant of Commonwealth Edison Co., Chicago, with Imperial Cutting Torch.



Wrecking Obsolete Machinery in Plant of Commonwealth Edison Co., Chicago. Hundreds of tons were cut into scrap with Imperial Torches.

## Imperial Hand Book

On Welding, Cutting, Carbon and Lead Burning



The Imperial Hand Book of Welding, Cutting, Carbon and Lead Burning is what every present or prospective user of this process has been looking for.

It contains 80 pages, 65 illustrations—compact—brief—written so

every one can understand.

No tedious history of the process, no long involved technical explanation of the chemical and physical action of the gases—just plain, simple directions—all the things every welder must know and understand to make a success.

Imperial Welding and Cutting Equipment has proved to be the safest, most efficient and most economical, and now we offer the best welding instructions ever issued—free to users of Imperial Apparatus—\$1.00 each to those less fortunate.

#### THE IMPERIAL BRASS MANUFACTURING CO., - - - CHICAGO

MATERIAL INDEX	Page No
Acetylene Generator	48-59
Ashestes Daner	0.0
Assortment for Jobbers	25
Bench Blocks for Lead Burning	65
Brazing and Soldering Outhts	68
Carbon Paste Welding	66-67
Assortment for Jobbers  Bench Blocks for Lead Burning  Brazing and Soldering Outfits  Carbon Burning Outfits  Carbon Paste, Welding  Cartying Case  Carrying Case	78
Carrying Case Circle Cutter Attachment Combination Welding and Cutting Torch	35
Circle Cutter Attachment	74
Combination Welding and Cutting Torch	14
Cutting Attachment Cutting Tips Cutting Torches Cylinder Adapters Display Fixture Double Hose Connection	23 24
Cutting Torches	16-21
Cylinder Adapters	32
Display Fixture	34
Double Hose Connection	74
Gas Blow Torches Gloves, Welding and Cutting. Goggles, Welding and Cutting. Hose Connections Hose, Welding and Cutting, Lead Burning, Carbon Burning. Lead Burning Outfits Lead Burning Torches Line Flash-Back Checks Oxygen Manifolds	69
Goggles, Welding and Cutting	75
Hose Connections	73
Hose, Welding and Cutting, Lead Burning, Carbon Burning.	72
Lead Burning Outfits	59-64
Lead Burning Torches	65
Oxygen Manifolds	58
Preheating Torches	70-71
Preheating Torches Regulator Protectors Regulators	33
Regulators	26-31
Safety and Relief Valves	58
Spark Lighter	79
Speciacies, Welding and Cutting	75
Trucks Cylinders and Generator	80
"V" Blocks	80
Regulators Safety and Relief Valves Spark Lighter Spectacles, Welding and Cutting Surface Plates Trucks, Cylinders and Generator "V" Blocks Welding and Cutting Outfits Welding Flux	36-47
Welding Flux	77
Welding Rod	76
Welding Torches	22
rectains forenes	10 12
Welding Wire	10-13
Welding Rod Welding Tips Welding Torches Welding Wire	10-13
	10-13
CATALOG NUMBER INDEX	10-13 77
	10-13 77
CATALOG NUMBER INDEX	Page No.
CATALOG NUMBER INDEX	Page No.
CATALOG NUMBER INDEX	Page No.
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 120-H—22-H	Page No. 73 72 72
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H	Page No. 73 72 72
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 27-H	Page No. 73 72 72
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 23-H 41-H—44-H	Page No. 73 72 72 77 72 74 74 75 75 77 77 77 77 77 77 77 77 77 77 77
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 27-H 41-H—44-H 51-H—53-H	Page No. 73 72 72 77 77 72 74 74 81
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 27-H 41-H—44-H 51-H—53-H 54-H	Page No
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 27-H 41-H=44-H 51-H—53-H 54-H 56-H 60-H—62-H	Page No
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 27-H 41-H—44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H	Page No
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 27-H 41-H—44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-H	Page No
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 19-H 20-H—22-H 23-H 27-H 41-H—44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-HH 77-H	Page No
CATALOG NUMBER INDEX  Cat. No.  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 23-H 41-H—44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-H 76-H 77-H 79-H	Page No
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 27-H 41-H—44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-H 76-H 77-H 79-H 79-H 79-H 79-H 79-H 79-H	Page No
CATALOG NUMBER INDEX  Cat. No.  5-H.—7-H 9-H.—17-H 19-H 20-H—22-H 23-H 27-H 41-H=44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-HH 77-H 79-HH 88-H—90-H	Page No
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 23-H 41-H—44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-H 76-HH 77-H 79-HH 79-HH 79-HH 86-H—90-H 88-H—90-H	Page No
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 19-H 20-H—22-H 23-H 27-H 41-H—44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-HH 77-H 79-H 79-H 79-H 79-H 79-H 79-H 7	Page No
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 23-H 27-H 41-H—44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-H 76-HH 77-H 79-H 79-H 19-H 19-H 19-H 19-H 19-H 19-H 19-H 1	Page No. 73 72 72 74 74 73 81 79 32 81 75 75 75 77 77 77 77 77 77 77 77 77 77
CATALOG NUMBER INDEX  Cat. No.  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 27-H 41-H=44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-HH 77-H 79-H 79-H 79-H 79-H 79-H 79-H 92-H—96-H 92-H—96-H 91-H—105-H 111-H—113-H	Page No.  73 72 77 77 74 73 81 79 32 81 75 75 75 77 77 77 77 77 77 77 77 77 77
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H	Page No.
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 19-H 20-H—22-H 23-H 27-H 41-H—44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-HH 77-H 79-H 79-H 19-H 19-H 104-H—105-H 111-H—113-H 120-H 121-H 120-H	Page No.
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 20-H—22-H 23-H 23-H 27-H 41-H—44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-H 77-H 79-H 79-H 79-H 10-H—105-H 111-H—113-H 120-H 131-H—132-H 133-H	Page No.
CATALOG NUMBER INDEX  5-H—7-H 9-H—17-H 19-H 19-H 20-H—22-H 23-H 27-H 41-H—44-H 51-H—53-H 54-H 56-H 60-H—62-H 68-H 76-HH 77-H 79-H 79-H 19-H 19-H 104-H—105-H 111-H—113-H 120-H 121-H 120-H	Page No.  73 72 77 77 74 73 81 79 32 81 75 75 75 75 77 71 75 75 75 77 75 77 76 77 77 77 77 77 77 77 77 77 77 77

# Other Imperial Products

In addition to the items listed on the preceding pages, we manufacture a large number of other high grade products, as enumerated below.

### Automotive Specialties:

Primer, Priming Cups, Shut-Off and Drain Cocks, Gasoline Strainers, Compression and S. A. E. Tubing Couplings, Spring Oilers, Spring Oil, Motor Cleaners, Tire Pumps, Oil and Air Dash Pumps, Vacuum Tank Floats, Cut-Out Levers, Dash Controls, Hood Heat Holders, Storage Battery Terminals, Plugs, Screws and Bushings, etc.

### Watrous Plumbing Specialties:

Duo-Jet Closets, Flushing Valves, Urinals, Self-Closing Cocks, Gravity Liquid Soap Systems and Liquid Soap Fixtures, etc.

#### Building Hardware

Bronze Kick Plates, Thresholds, Pull and Push Bars and Plates, Door Guards, etc.

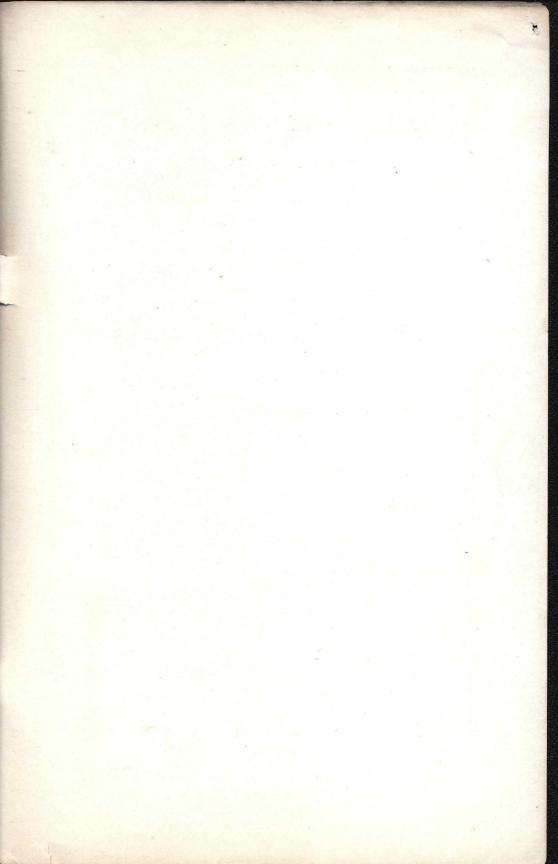
### Signs and Name Plates:

Cast Bronze Signs, Memorial Tablets, Honor Rolls, Number and Name Plates, etc.

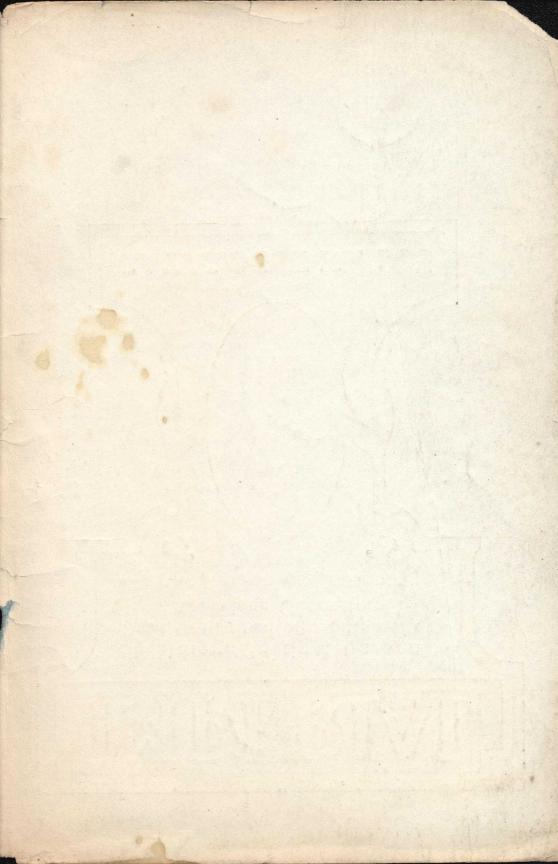
#### Self-Heating Irons:

Gasoline and Kerosene Self-Heating Household and Tailors' Irons.

Catalogs and full data on any of the above lines sent to proper parties on request



R. J. Jefferson Printing Company, Chicago, Ill.







# The Imperial Brass Manufacturing Co.

MAIN OFFICES AND WORKS: 1200 West Harrison Street, Chicago

MONADNOCK BLDG

MANUFACTURERS OF

NEW YORK OFFICE: LONGACRE BLDG.

OXY-ACETYLENE AND OXY-HYDROGEN WELDING AND CUTTING OUTFITS, TORCHES, REGULATORS, ACCESSORIES IMPERIAL ACETYLENE GENERATORS CARBON BURNING AND LEAD BURNING OUTFITS

#### **NET PRICE LIST No. 166**

Applying to Catalog No. 165

This Price List cancels and supersedes List No. 159-F. Prices are subject to change without notice.

	5.00
Page 12 Type BB Imperial Welding Torch with 6 Tips	0.00
Page 13 Type A Imperial Heavy Duty Welding Torch with Nos. 8, 9, 10,	
12 and 15 Heavy Duty Welding Tips and 3 six-inch exten-	- 00
Page 14 Type D Combination Welding and Cutting Torch with 10	5.00
Welding Tips, Extension, Cutting Attachment, 3 Housings, 3	
Cutting Tips and Roller Guide 4	0.00
Page 15 No. 1 Imperial Cutting Attachment with Housing, 3 Tips and	947
Charles and the second of the	5.00
No. 2 Imperial Cutting Attachment, with Housing and 1 Cutting Tip (No. 2N), (used with Type BB Welding Torch)	0.00
Page 16 Type EE Imperial Cutting Torch with 4 Tips and Housings and	0.00
	5.00
	5.00
Type EE Imperial Cutting Torch, with 90° Head (special) 4	5.00
Type EE Imperial Cutting Torch, with Straight Head (special) 4	5.00
	0.00
	5.00
	2.50
Imperial Welding and Cutting Torches are regularly fur-	
nished with Oxy-Acetylene Tips, but when requested, Tips for Oxy-Hydrogen will be furnished at the same	
prices, of a series of the ser	163
WELDING AND CUTTING TIPS	
Page 22 WELDING TIPS—OXY-ACETYLENE:	ach
Nos. 0, 00 and 000 (also used for lead burning)\$	.75
Nos. 1, 2, 3 and 4	1.00
Nos. 5, 6, 7 and 8	1.50
	2.00
Nos. 12 and 15 (Extra Heavy Duty)	2.50
WELDING TIPS—OXY-HYDROGEN:	
Nos. 1H and 2H	1.00
Nos. 3H and 4H	1.50
	2.00
Page 23 Cutting Tips, Oxy-Acetylene, Nos. 1 (Type N), 2 (Type N), 3 (Type	9 50
Page 23 Cutting Tips, Oxy-Acetylene, Nos. 1 (Type N), 2 (Type N), 3 (Type	2.50

STRAIGHT AND RIVET CUTTING TIPS Each
Page 24 Straight Cutting Tips, Oxy-Acetylene, Nos. 1, 2 and 3 \$ 3.00
Straight Cutting Tips, Oxy-Hydrogen, Nos. 1, 2 and 3
Rivet Cutting Tips, Oxy-Hydrogen, Nos. 1 and 2 3.00
(Not listed) Cutting Tips for Cast Iron, Nos. 1, 2, 3 and 4
Page 25 No. 120H Tips and Spare Parts Assortment, net 50.00
OXYGEN, ACETYLENE AND HYDROGEN REGULATORS
Page 28 Type K Imperial Oxygen Regulator, with 2 gauges 25.00
Type D Imperial Oxygen Regulator, with 1 gauge 10.00  Page 29 Type AA Imperial Acetylene Regulator, with 2 gauges
Type DD Imperial Acetylene Regulator, with 1 Gauge 10.00
Type 10R Imperial Constant Pressure Regulator
Type DH Imperial Hydrogen Regulator, with 1 gauge 10.00
Page 31 Type DG Imperial Oxygen Pipe Line Regulator
TO SECURITY OF THE PARTY OF THE
Page 32 No. 60-H Adapter for attaching Imperial Regulators to Prest-O-Lite
Cylinders
No. 61-H Adapter for attaching Imperial Regulators to Searchlight, Commercial or Air Reduction Cylinders
No 62-H Right Angle Adapter for Prest-O-Lite Cylinders 1.50
REGULATOR PROTECTOR
Page 33 Imperial Regulator Protector for Imperial Oxygen and Acetylene
Regulators
REVOLVING DISPLAY STAND
Page 24 No. 125-H Display Stand only
Torches, Regulators and other samples (omitting Type A and D Torches and adding No. 1 Cutting Attachment)
WELDING AND CUTTING OUTFITS
Page 37 No. 1 Imperial Oxy-Acetylene Welding Outfit
Page 41 No. 3 Imperial Oxy-Acetylene Cutting Outfit
Page 43 No. 4 Imperial Oxy-Acetylene Combination Welding and Cutting Outfit
Page 45 No 5 Imperial Oxy-Acetylene Duplex Welding and Cutting Outfit 120.00
Page 47 Prices on Imperial Oxy-Hydrogen Welding and Cutting Outfits are each \$5.00 higher than the corresponding Oxy-Acetylene Outfits above.
Orders for Oxy-Hydrogen Outfits should mention name of hydrogen manufacturer
on whose cylinders the regulator is to be used, to enable us to supply Regulators with correct machining and threads to fit Hydrogen Cylinder Valve.
ACETYLENE GENERATORS
Pages 48 15-1h Imperial Acetylene Generator, without Truck *\$155.00
to 55 25-lb. Imperial Acetylene Generator, without Truck
100-lb. Imperial Acetylene Generator, without Truck 425.00
*If truck is wanted, add \$20.00. When using Imperial Acetylene Generator for Welding or Cutting no Acetylene
Regulator is required. (Amounts allowed when Acetylene Regulators are not furnished:
AA—\$18.00; DD—\$4.50.)
MANIFOLDS, OXYGEN AND HYDROGEN Prices on
Page 57 Specifications should state style desired and number of cylinders. Request
SAFETY AND RELIEF VALVE
Page 58 No. 130-H Imperial Safety and Relief Valve
No. 132-H Imperial Safety and Relief Valve
No. 135-H Imperial Safety and Relief Valve
PIPE LINE FLASHBACK
Page 58 No. 140-H Imperial Special Pipe-line Flashback 10.00

	PARTS FOR LEAD BURNING OUTFITS	Each
Page 60	Type L Bench Block with 2 needle valves	\$ 2.50
	Type L-3 Bench Block for No. 28 Outfit	7.50
	Type L-3 Hydraulic Valve for No. 28 Outfit	6.00
	Type L Lead Burning Torch, with 4 Tips	5.00
	Extra Torch Tips for Type L Lead Burning Torch	.35
	Type L-2 Lead Burning Torch, with 4 tips	5.00
	Type L-2 Lead Burning Torch, with 4 tips Extra Torch Tips for Type L-2 Lead Burning Torch, Nos.	
	0 to 6	.35
	Type L-3 Lead Burning Torch, with 4 Tips Extra Torch Tips for Type L-3 Lead Burning Torch, Nos. A,	2.25
	B, C, and D	.35
	Lead Burning Tips for use with Welding Torches Nos. 0, 00, 000	.75
	Type 10-R Imperial Acetylene and Air Regulator	5.00
	LEAD BURNING OUTFITS	
	のでは少くではないという。 19 mm からり 一切 でかりまさんが	0 0 0 00
Page 61	No. 20 Imperial Lead Burning Outfit, for Acetylene and Oxygen No. 20-DD Imperial Lead Burning Outfit, for Acetylene and Oxy-	\$ 25.00
	gen, same as No. 20, except with a DD Acetylene Regulator in	
	place of the No. 10-R	30.00
Page 62	No. 21 Imperial Lead Burning Outfit, for Hydrogen and Oxygen	27.50
Page 63	No. 22 Imperial Lead Burning Outfit, for Hydrogen and Compressed	05.00
Page 64	No. 26 Imperial Lead Burning Outfit, for use with Oxy-Acetylene	25.00
rage 04	Welding Outfits	9.00
Page 65	No. 28 Imperial Lead Burning Outfit for City Gas or Natural Gas	
4 2.05 17 13	and Oxygen	27.50
	OXYGEN CARBON BURNING OUTFIT	
D OH	No. 6 Imperial Oxygen Carbon Burning Outfit	\$ 15.00
Page 67	Type G Imperial Carbon Burning Torch	3.50
	The state of the s	
	SOLDERING AND BRAZING OUTFIT	
Page 68	No. 30 Imperial Soldering and Brazing Outfit for Acetylene only	
	(with 3 Tips)	ф 4.50
	PRE-HEATING TORCHES	
Page 69	No. R-0 Gas Blow Torch	\$ 2.50
	No. R-1 Gas Blow Torch	3.00
	No. R-2 Gas Blow Torch	3.75
T) WO	No. R-3 Gas Blow Torch	4.50
Page 70 Page 71	No. 97-H Gas-Electric Pre-heating Torch	48.00 45.00
rage 11	No. 93-H Kerosene Pre-heating Torch	50.00
	No. 94-H Kerosene Pre-heating Torch	70.00
	No. 95-H Kerosene Pre-heating Torch	85.00
	No. 96-H Kerosene Pre-heating Torch	98.00
WEI	DING, CUTTING, CARBON AND LEAD BURNING H	OSE
Page 72	No. 10-H Black, Oxygen, 25-ft. length, for Nos. 3 and 5 Outfits	Per Ft. \$ 0.20
Page 12	No. 11-H Red, Acetylene, 25-ft. length, for Nos. 3 and 5 Outfits	.20
Det. Pair	No. 12-H Black, Oxygen, 10-ft. length, for No. 2 Outfit	.15
	No. 13-H Red, Acetylene, 10-ft. length, for No. 2 Outfit	OV 02.15
	No. 14-H Black, Oxygen, 12½-ft. length, for Nos. 1 and 4 Outfits	.20
	No. 15-H Red, Acetylene, 12½-ft, length, for Nos. 1 and 4 Outfits No. 17-H Copper Armored Hose, ½, 25-ft, length, for cutting	.20
	No. 16-H 8-ft. length for Carbon Burning Outfit	08 99.15
	No. 19-H Special 16" Rubber Hose for Lead Burning Outfits	.12
	No. 23-H Braided Acetylene, 6-ft. length, for No. 30 Outfit, with	
	No. 9-H Red Rubber Hose, 6-ft. length, for No. 28 Outfit	25
	a water the state of the state	.15
	HOSE CONNECTIONS	
Page 73	No. 41-H Imperial Oxygen or Acetylene 50" Hose Connection	\$ 0.45
	No. 42-H Imperial Hose Connector (for joining two lengths) No. 43-H To connect Imperial Torch to Oxweld Hose and others.	.35
	No. 5-H To connect Imperial Torch to Oxweld Hose	.50

HOSE CONNECTIONS—Continued	Each
	\$ .50
No. 44-H To connect Imperial Torch to Rego Hose and others  No. 7-H To connect Imperial Torch to Torchweld Hose	.50
No. 81-H Imperial Oxygen or Acetylene %" Hose Connection	.45
No. 104-H Imperial Hose Connection	.45
Page 74 No. 121-H Imperial Double Hose Connection	4.50
TORCH PARTS	
Page 74 Tip Holder or Goose Neck for Type B Torch	\$ 1.50
Extension Piece for Types B or D Imperial Torches	1.50 2.00
No. 27-H Circle Cutter Attachment for Imperial Cutting Torches	5.00
Straight Cutting Head for Type EE Torch, with Tip	10.00
DOUBLE HOSE CONNECTIONS	1901
Page 74 No. 121-H Imperial Double Hose Connection	4.50
WELDING AND CUTTING GOGGLES AND LENSES	er Pair
Page 75 No. 86-H Welding and Cutting Goggles, Fibre Frame, Removable Screw Ring, Amber Lenses, Clear Cover—Glass	\$2,00
No. 111-H Amber Lens for No. 86-H	.85
No. 112-H Blue or Green Lenses for No. 86-H	.60
No. 87-H Welding and Cutting Goggles, Fibre Frame, Removable Wire Ring, Imperial Amber Lenses, Clear Cover	
Glasses	3.00
No. 88-H Amber Lens for No. 87-H	.85
No. 90-H Clear Cover Glass for No. 87-H	.35
WELDING AND CUTTING SPECTACLES AND LENSES	
Page 75 No. 76-H Welding and Cutting Spectacles, Fyber-Weld Frame	2.00
No. 77-H Smoked Green Lens for No. 76-H Spectacles  No. 76-HH Essentialite Amber Lens for No. 76-H Spectacles	.60 .85
WELDING ROD, WIRE AND FLUX	
Pages 76-77 Welding Rod and Wire (See separate Price List).	
Page 77 Welding Flux (See separate Price List).	THE PARTY.
CARBON PASTE, ROD AND PLATES	San D
Pages 77-78 Welding Carbon Paste, Rod and Plates (See separate Price List).	
SPARK LIGHTER AND ASBESTOS PAPER	_
No. 79-H Spark Lighter, Round File\$0.45	Doz. \$4.60
No. 79-HH Extra Flint, for No. 79-H Spark Lighter	2.50
是一种的人,我们也是不是一种的人,我们就是一个人的人的人,我们就是一个人的人,我们就是一个人的人的人,我们就是一个人的人,我们就是一个人的人,我们就是一个人的人	.20
	er Pair
No. 56-H Asbestos Gloves, Mineral Tanned	\$ 2.50 <b>3.00</b>
SURFACE PLATES AND "V" BLOCKS	
Page 80 Prices quoted upon receipt of specifications.	
IMPERIAL PORTABLE TRUCKS	Each
Page 81 No. 51-H Imperial Truck for two 100-ft. Tanks  No. 52-H Imperial Truck for one 200-ft. and one 300-ft. Tanks	\$ 14.00 16.00
No. 53-H Imperial Truck for one 100 or 200 ft. Oxygen Tank for	
Carbon Burning	12.00
GENERATOR TRUCKS	
Page 81 No. 68-H Imperial Truck for either 15-lb. or 25-lb. Generator and a tank of oxygen	20.00